



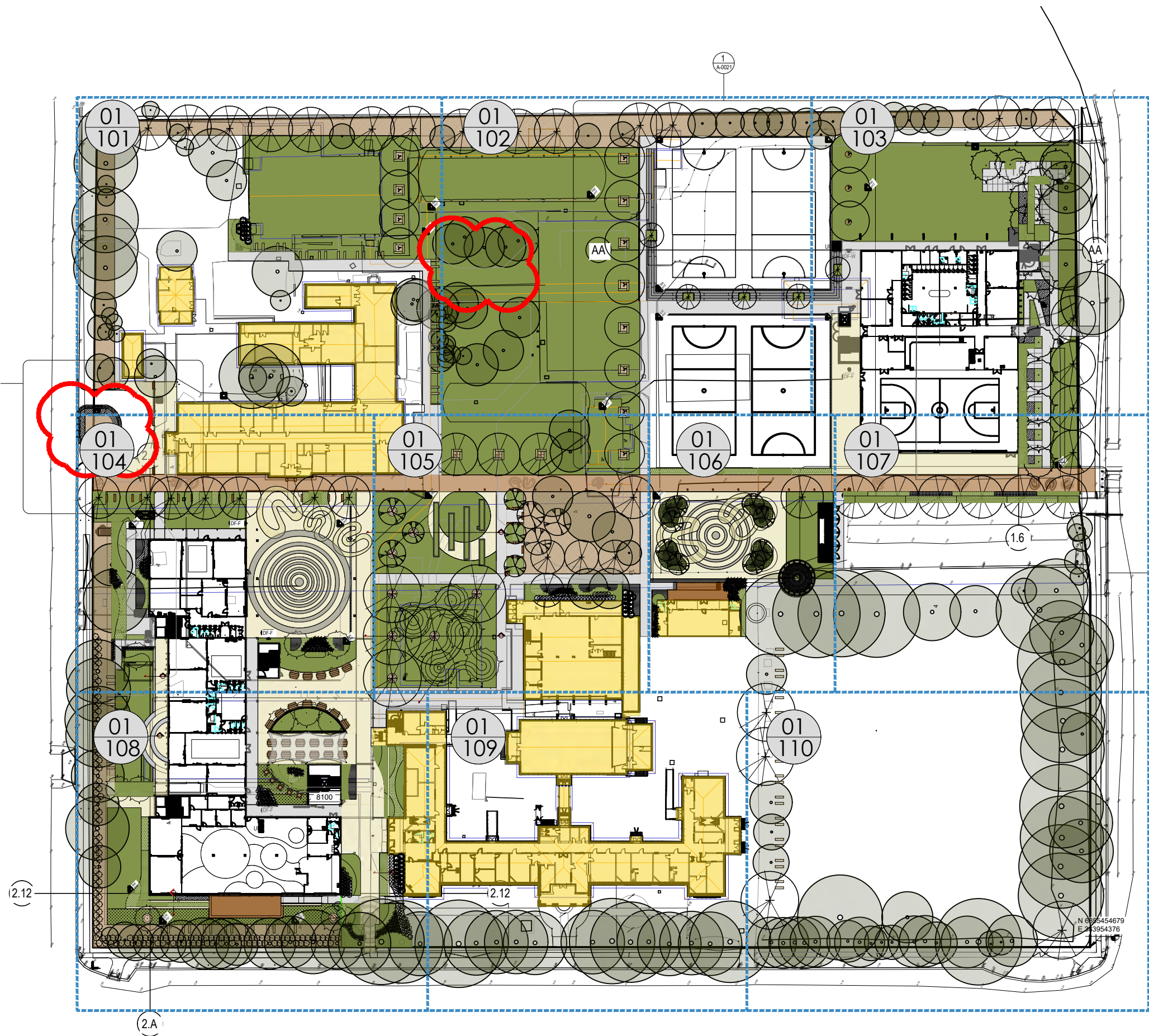
DRAWING REGISTER

DRAWING NUMBER			SHEET NAME	REV. No.	REV. DATE
13331.5	DD	L000	landscape cover page	J	30.09.2023
13331.5	DD	L001	landscape layout plan	J	30.09.2023
13331.5	DD	L101	landscape plan 01	I	26.06.2023
13331.5	DD	L102	landscape plan 02	J	30.09.2023
13331.5	DD	L103	landscape plan 03	H	26.06.2023
13331.5	DD	L104	landscape plan 04	J	30.09.2023
13331.5	DD	L105	landscape plan 05	H	26.06.2023
13331.5	DD	L106	landscape plan 06	H	26.06.2023
13331.5	DD	L107	landscape plan 07	I	06.09.2023
13331.5	DD	L108	landscape plan 08	H	06.09.2023
13331.5	DD	L109	landscape plan 09	H	26.06.2023
13331.5	DD	L301	landscape details 01	H	26.06.2023
13331.5	DD	L302	landscape details 02	H	26.06.2023
13331.5	DD	L303	landscape details 03	H	26.06.2023
13331.5	DD	L304	landscape details 04	H	26.06.2023
13331.5	DD	L305	landscape details 05	H	26.06.2023
13331.5	DD	L306	irrigation areas	J	30.09.2023
13331.5	DD	L401	landscape specifications 01	H	26.06.2023
13331.5	DD	L402	landscape specifications 02	I	27.06.2023
13331.5	DD	L403	landscape specifications 03	I	27.06.2023
13331.5	DD	L501	landscape schedules 01	H	26.06.2023
13331.5	DD	L502	landscape schedules 02	H	26.06.2023
13331.5	DD	L503	landscape schedules 03	H	26.06.2023

landscape detailed design

schools infratructure nsw
newcastle high school
160 / 200 parkway avenue, hamilton south





J	29.09.23	TENDER
I	06.09.23	TENDER
H	23.06.23	TENDER
G	14.04.23	TENDER
F	04.04.23	95%
E	28.02.23	95%
D	23.02.23	95%
C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%
REV	DATE	COMMENTS

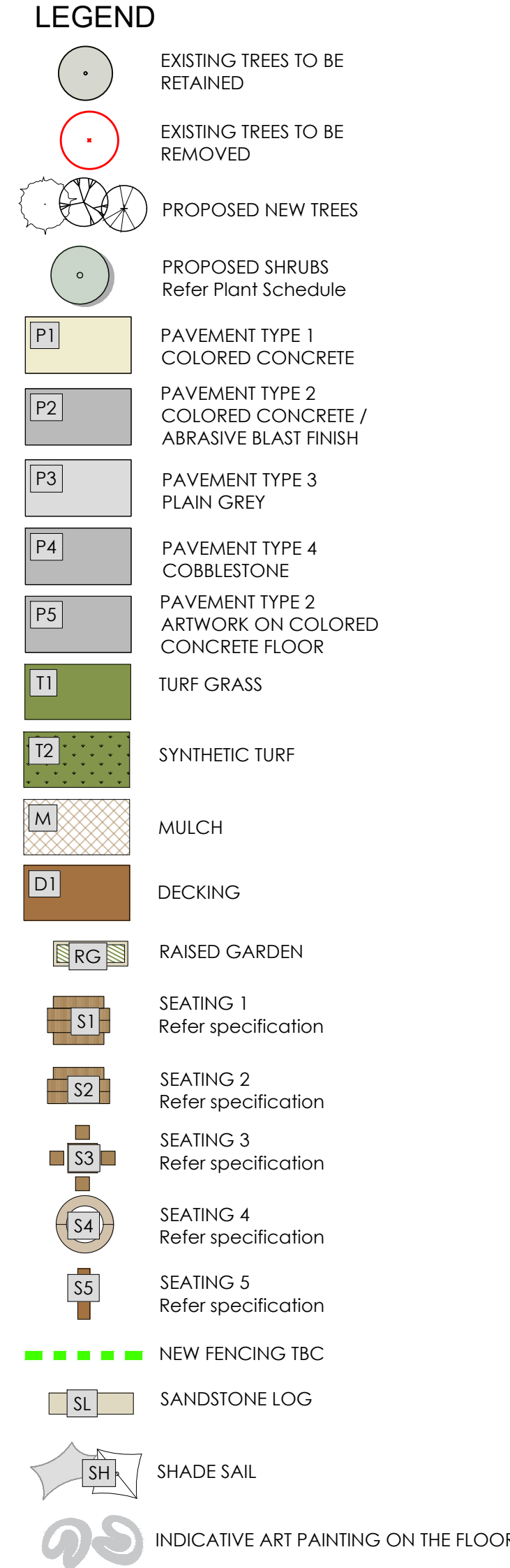
PROJECT:
**newcastle high school
 layout plan**

SITE:
**160 / 200 parkway avenue,
 hamilton south**

CLIENT:
school infrastructure nsw

DRAWN: DATE: SCALE:
 GF 29.09.23 1:1000@A3

JOB NUMBER: PHASE: DWG No: REV:
13331.5 T L001 J



PROJECT:
newcastle high school
landscape plan 01

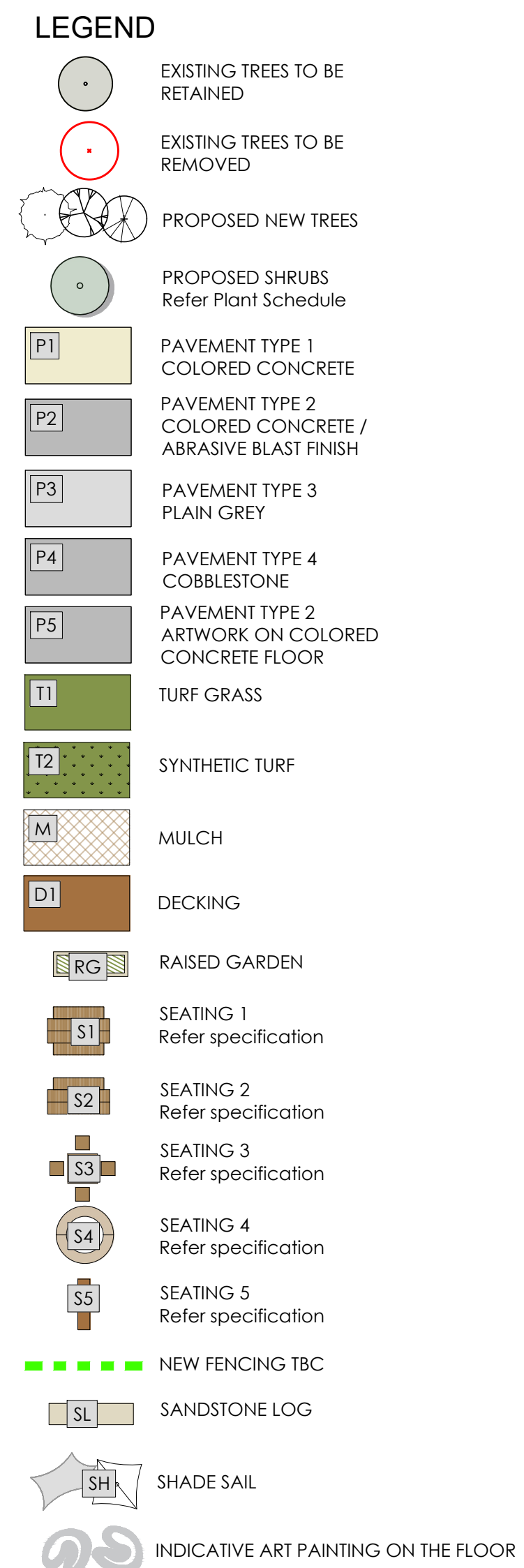
SITE:
160 / 200 parkway avenue,
hamilton south

CLIENT:
school infrastructure nsw



terras
landscape architects

412 KING STREET NEWCASTLE NSW AUSTRALIA 2300
TERRAS.COM.AU PH: 49 294 926 FAX: 49 263 06



H	26.06.23	TENDER
G	14.04.23	TENDER
F	04.04.23	95%
E	28.02.23	95%
D	23.02.23	95%
C	10.02.23	75%
B	17.01.22	50%
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REV	DATE	COMMENTS

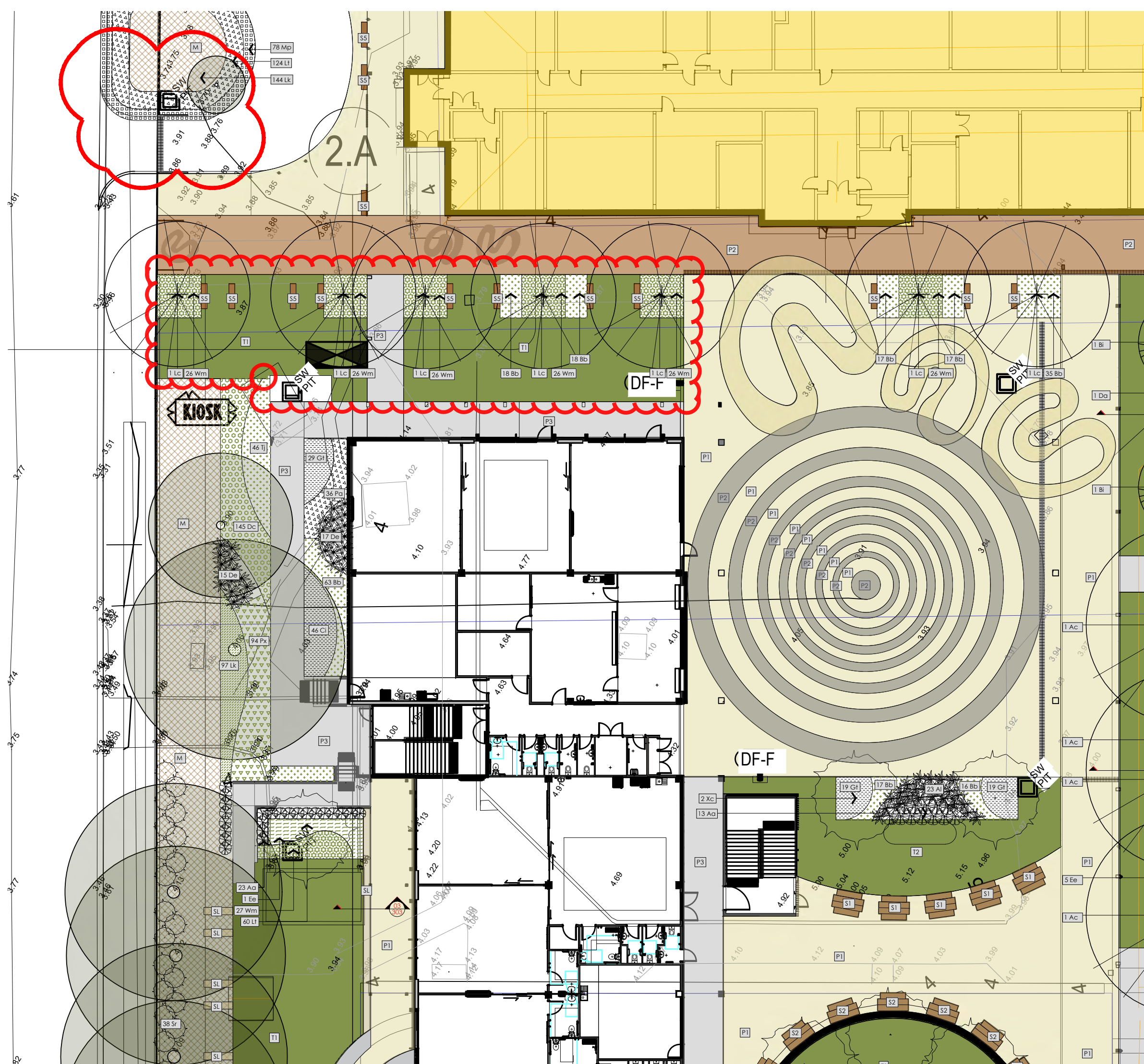
PROJECT:
**newcastle high school
landscape plan 03**

SITE:
**160 / 200 parkway avenue,
hamilton south**

CLIENT:
school infrastructure nsw

DRAWN: DATE: SCALE:
GF 26.6.23 1:250@A

JOB NUMBER: PHASE: DWG No: REV:
13331.5 T L103 H



- LEGEND**
- EXISTING TREES TO BE RETAINED
 - EXISTING TREES TO BE REMOVED
 - PROPOSED NEW TREES
 - PROPOSED SHRUBS
Refer Plant Schedule
 - PAVEMENT TYPE 1
COLORED CONCRETE
 - PAVEMENT TYPE 2
COLORED CONCRETE /
ABRASIVE BLAST FINISH
 - PAVEMENT TYPE 3
PLAIN GREY
 - PAVEMENT TYPE 4
COBBLESTONE
 - PAVEMENT TYPE 2
ARTWORK ON COLORED
CONCRETE FLOOR
 - TURF GRASS
 - SYNTHETIC TURF
 - MULCH
 - DECKING
 - RAISED GARDEN
 - SEATING 1
Refer specification
 - SEATING 2
Refer specification
 - SEATING 3
Refer specification
 - SEATING 4
Refer specification
 - SEATING 5
Refer specification
 - NEW FENCING TBC
 - SANDSTONE LOG
 - SHADE SAIL
 - INDICATIVE ART PAINTING ON THE FLOOR

J	29.09.23	TENDER
I	06.09.23	TENDER
H	26.06.23	TENDER
G	14.04.23	TENDER
F	04.04.23	95%
E	28.02.23	95%
D	23.02.23	95%
C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%
REV	DATE	COMMENTS

PROJECT:
**newcastle high school
landscape plan 04**

SITE:
**160 / 200 parkway avenue,
hamilton south**

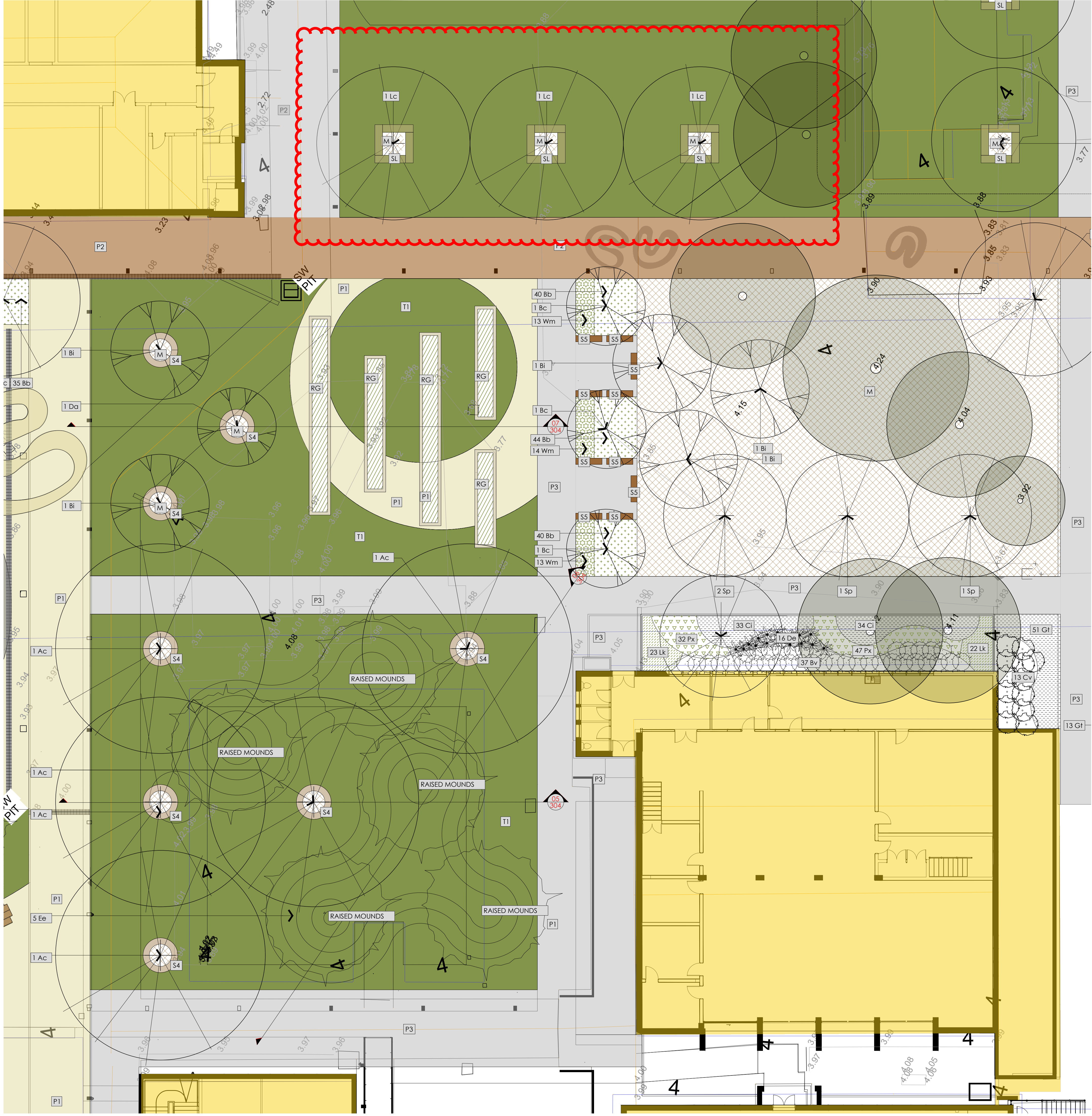
CLIENT:
school infrastructure nsw

DRAWN: GF DATE: 29.09.23 SCALE: 1:250@A3

JOB NUMBER: 13331.5 T PHASE: L104 REV: J

terras
landscape architects

412 KING STREET NEWCASTLE NSW AUSTRALIA 2300
TERRAS.COM.AU PH: 49 294 926 FAX: 49 263 069



LEGEND

- EXISTING TREES TO BE RETAINED
- EXISTING TREES TO BE REMOVED
- PROPOSED NEW TREES
- PROPOSED SHRUBS
Refer Plant Schedule
- PAVEMENT TYPE 1
COLORED CONCRETE
- PAVEMENT TYPE 2
COLORED CONCRETE /
ABRASIVE BLAST FINISH
- PAVEMENT TYPE 3
PLAIN GREY
- PAVEMENT TYPE 4
COBBLESTONE
- PAVEMENT TYPE 2
ARTWORK ON COLORED
CONCRETE FLOOR
- TURF GRASS
- SYNTHETIC TURF
- MULCH
- DECKING
- RAISED GARDEN
- SEATING 1
Refer specification
- SEATING 2
Refer specification
- SEATING 3
Refer specification
- SEATING 4
Refer specification
- SEATING 5
Refer specification
- NEW FENCING TBC
- SANDSTONE LOG
- SHADE SAIL
- INDICATIVE ART PAINTING ON THE FLOOR

H	26.06.23	TENDER
G	14.04.23	TENDER
F	04.04.23	95%
E	28.02.23	95%
D	23.02.23	95%
C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%
REV	DATE	COMMENTS

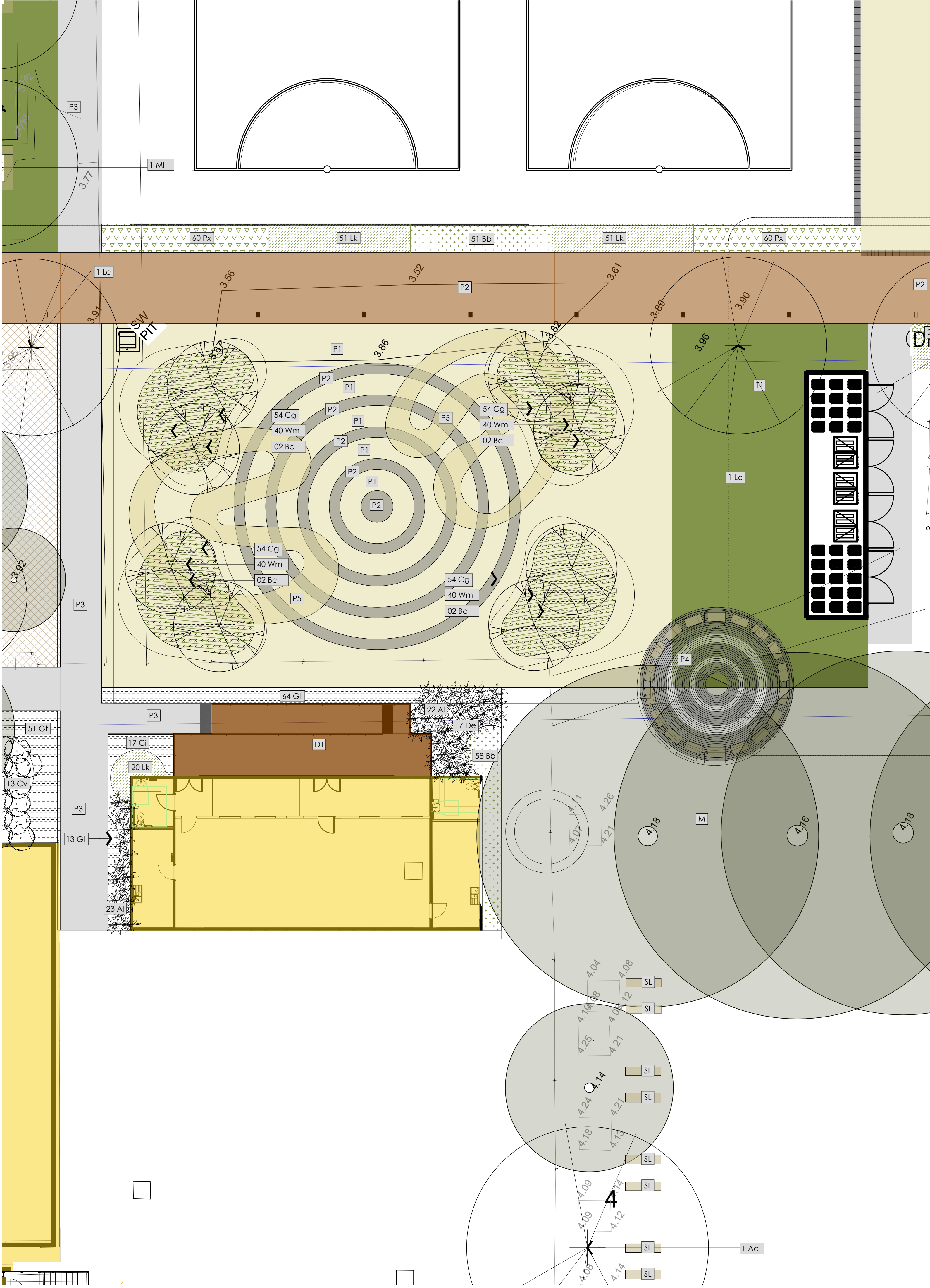
PROJECT:
**newcastle high school
landscape plan 04**

SITE:
**160 / 200 parkway avenue,
hamilton south**

CLIENT:
school infrastructure nsw

DRAWN: GF DATE: 26.6.23 SCALE: 1:250@A3

JOB NUMBER: 13331.5 T PHASE: L105 H DWG No: REV:



LEGEND

- EXISTING TREES TO BE RETAINED
- EXISTING TREES TO BE REMOVED
- PROPOSED NEW TREES
- PROPOSED SHRUBS
Refer Plant Schedule
- PAVEMENT TYPE 1
COLORED CONCRETE
- PAVEMENT TYPE 2
COLORED CONCRETE /
ABRASIVE BLAST FINISH
- PAVEMENT TYPE 3
PLAIN GREY
- PAVEMENT TYPE 4
COBBLESTONE
- PAVEMENT TYPE 2
ARTWORK ON COLORED
CONCRETE FLOOR
- TURF GRASS
- SYNTHETIC TURF
- MULCH
- DECKING
- RAISED GARDEN
- SEATING 1
Refer specification
- SEATING 2
Refer specification
- SEATING 3
Refer specification
- SEATING 4
Refer specification
- SEATING 5
Refer specification
- NEW FENCING TBC
- SANDSTONE LOG
- SHADE SAIL
- INDICATIVE ART PAINTING ON THE FLOOR

H	26.06.23	TENDER
G	14.04.23	TENDER
F	04.04.23	95%
E	28.02.23	95%
D	23.02.23	95%
C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%
REV	DATE	COMMENTS

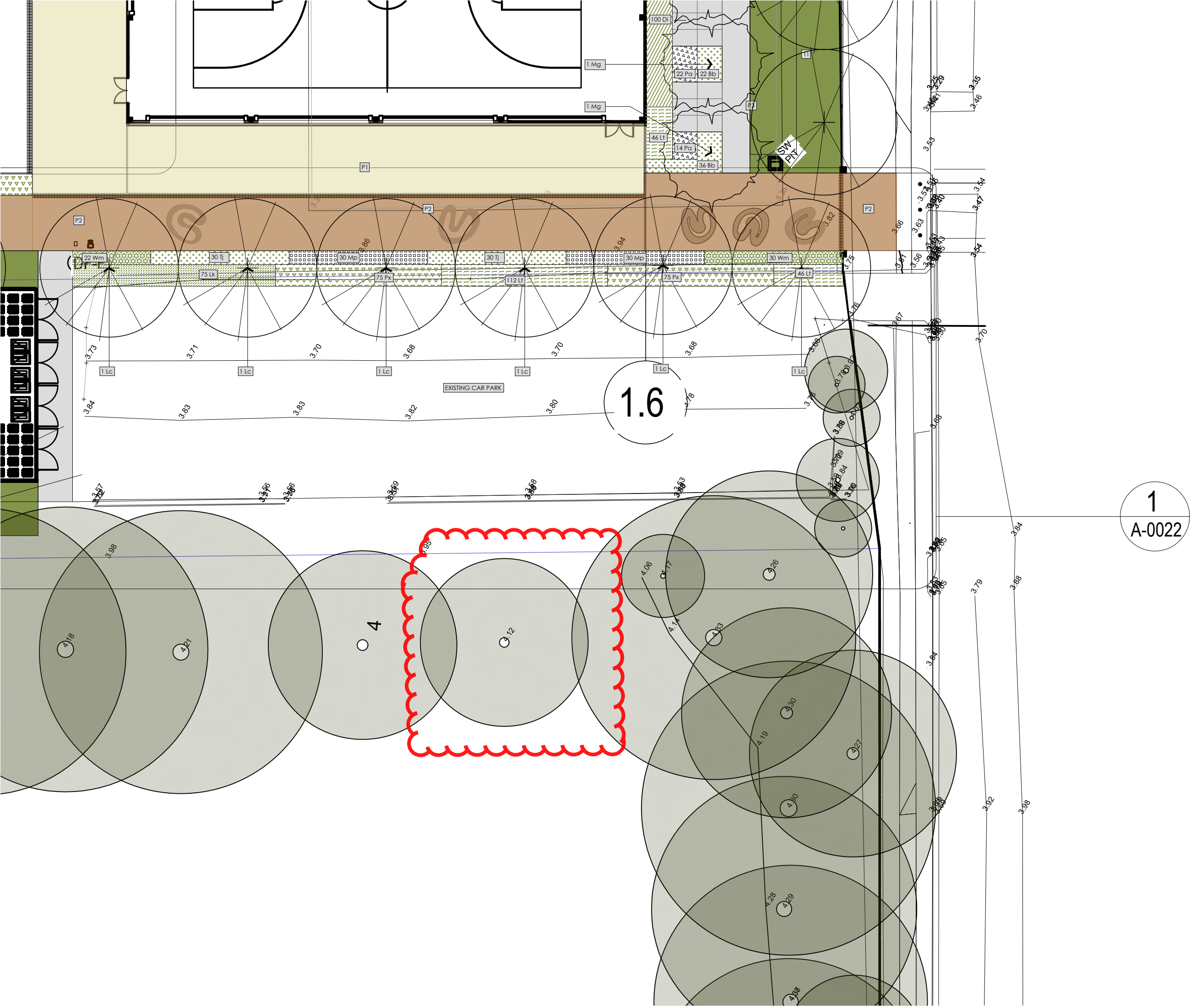
PROJECT:
**newcastle high school
landscape plan 01**

SITE:
**160 / 200 parkway avenue,
hamilton south**

CLIENT:
school infrastructure nsw

DRAWN: DATE: SCALE:
GF 26.6.23 1:250@A3

JOB NUMBER: PHASE: DWG No: REV:
13331.5 T L106 H



LEGEND

- EXISTING TREES TO BE RETAINED
- EXISTING TREES TO BE REMOVED
- PROPOSED NEW TREES
- PROPOSED SHRUBS
Refer Plant Schedule
- PAVEMENT TYPE 1
COLORED CONCRETE
- PAVEMENT TYPE 2
COLORED CONCRETE /
ABRASIVE BLAST FINISH
- PAVEMENT TYPE 3
PLAIN GREY
- PAVEMENT TYPE 4
COBBLESTONE
- PAVEMENT TYPE 2
ARTWORK ON COLORED
CONCRETE FLOOR
- TURF GRASS
- SYNTHETIC TURF
- MULCH
- DECKING
- RAISED GARDEN
- SEATING 1
Refer specification
- SEATING 2
Refer specification
- SEATING 3
Refer specification
- SEATING 4
Refer specification
- SEATING 5
Refer specification
- NEW FENCING TBC
- SANDSTONE LOG
- SHADE SAIL
- INDICATIVE ART PAINTING ON THE FLOOR

I	06.09.23	TENDER
H	26.06.23	TENDER
G	14.04.23	TENDER
F	04.04.23	95%
E	28.02.23	95%
D	23.02.23	95%
C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%
REV	DATE	COMMENTS

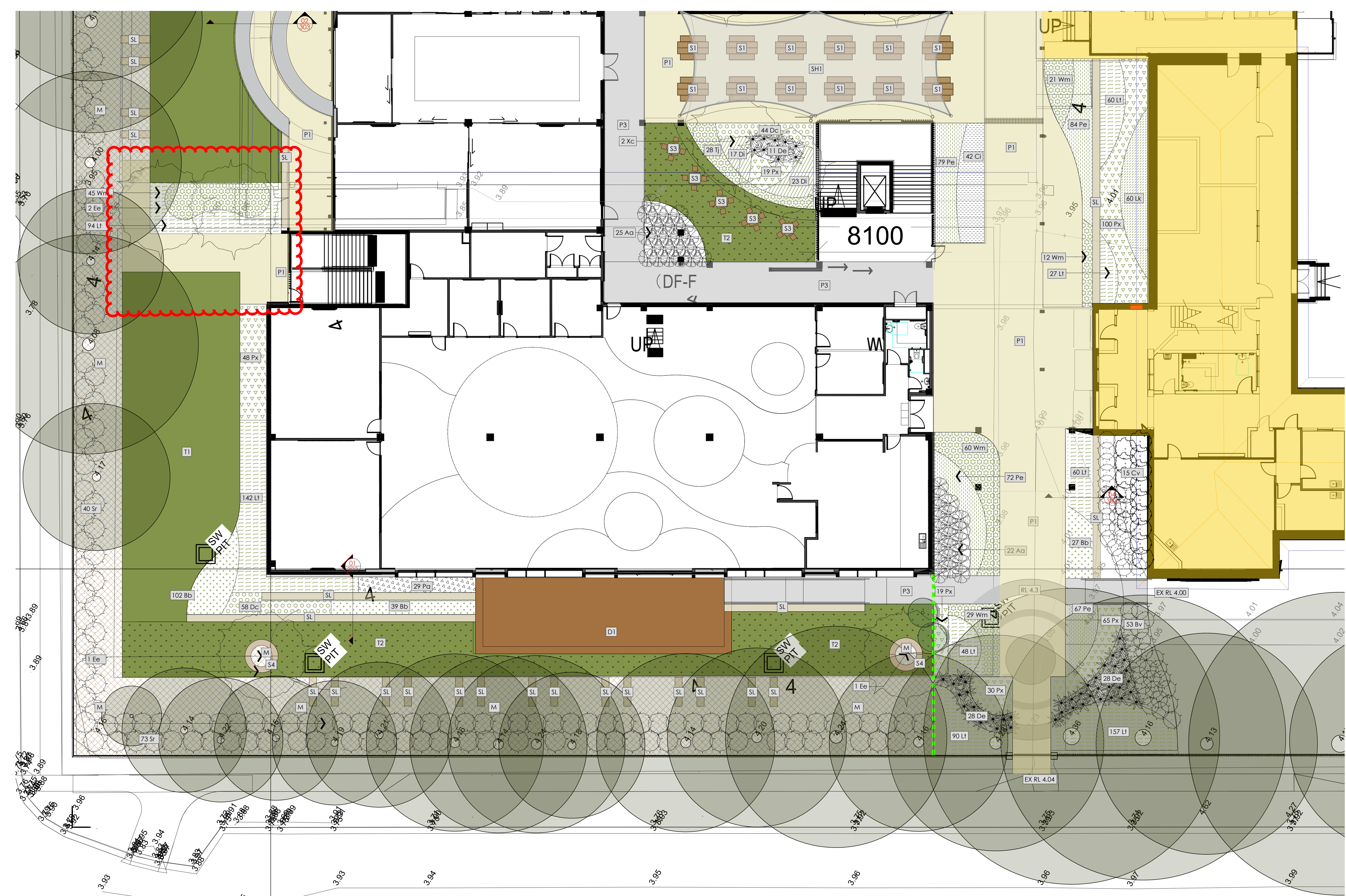
PROJECT:
**newcastle high school
landscape plan 06**

SITE:
**160 / 200 parkway avenue,
hamilton south**

CLIENT:
school infrastructure nsw

DRAWN: GF DATE: 06.09.23 SCALE: 1:250@A3

JOB NUMBER: 13331.5 T PHASE: L107 REV: I



- LEGEND**
- EXISTING TREES TO BE RETAINED
 - EXISTING TREES TO BE REMOVED
 - PROPOSED NEW TREES
 - PROPOSED SHRUBS
Refer Plant Schedule
 - PAVEMENT TYPE 1
COLORED CONCRETE
 - PAVEMENT TYPE 2
COLORED CONCRETE /
ABRASIVE BLAST FINISH
 - PAVEMENT TYPE 3
PLAIN GREY
 - PAVEMENT TYPE 4
COBBLESTONE
 - PAVEMENT TYPE 2
ARTWORK ON COLORED
CONCRETE FLOOR
 - TURF GRASS
 - SYNTHETIC TURF
 - MULCH
 - DECKING
 - RAISED GARDEN
 - SEATING 1
Refer specification
 - SEATING 2
Refer specification
 - SEATING 3
Refer specification
 - SEATING 4
Refer specification
 - SEATING 5
Refer specification
 - NEW FENCING TBC
 - SANDSTONE LOG
 - SHADE SAIL
 - INDICATIVE ART PAINTING ON THE FLOOR

H	26.06.23	TENDER
G	14.04.23	TENDER
F	04.04.23	95%
E	28.02.23	95%
D	23.02.23	95%
C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%
REV	DATE	COMMENTS

PROJECT:
**newcastle high school
landscape plan 07**

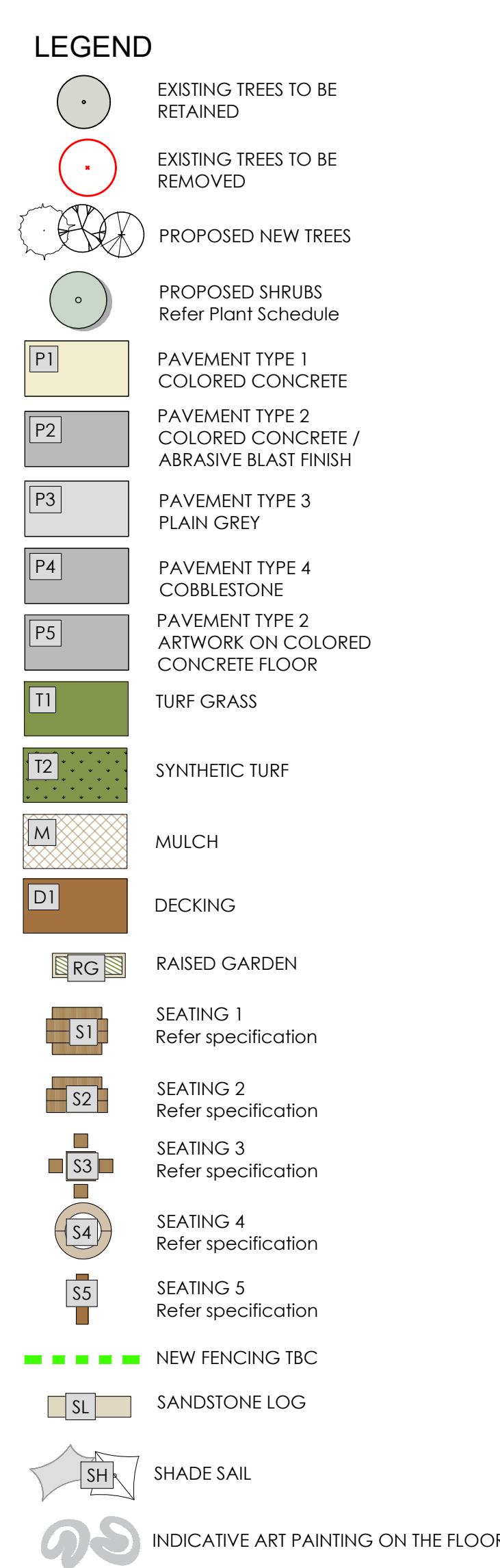
SITE:
**160 / 200 parkway avenue,
hamilton south**

CLIENT:
school infrastructure nsw

DRAWN: GF DATE: 26.6.23 SCALE: 1:250@A3

JOB NUMBER: 13331.5 T PHASE: L108 H DWG No: REV:

2.A



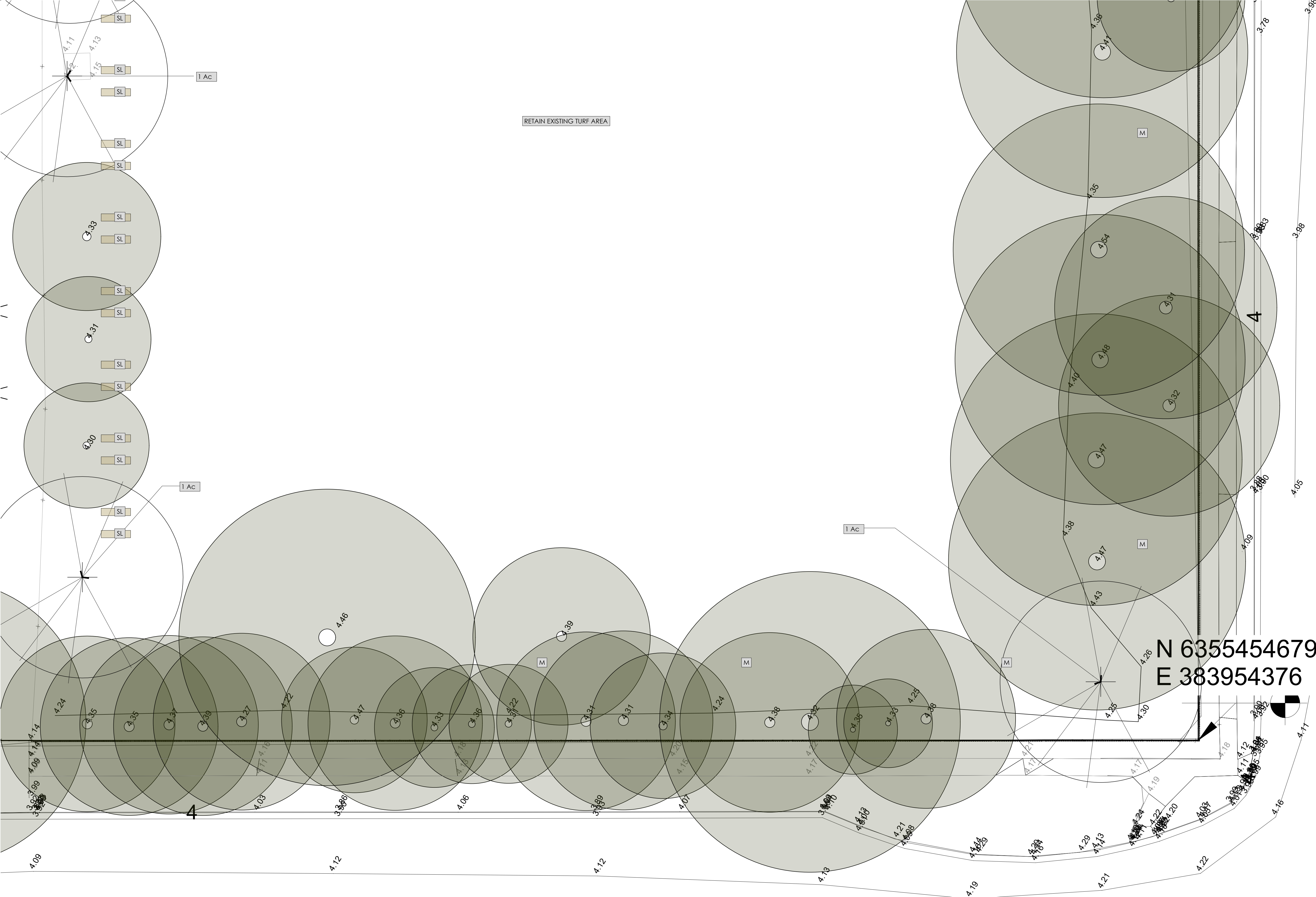
PROJECT:
**newcastle high school
landscape plan 08**

SITE:
**160 / 200 parkway avenue,
hamilton south**

CLIENT:
school infrastructure nsw

DRAWN: DATE: SCALE:
GF 26.6.23 1:250@A3

JOB NUMBER: PHASE: DWG No: REV:
13331.5 T L109 H



LEGEND

EXISTING TREES TO BE RETAINED

EXISTING TREES TO BE REMOVED

PROPOSED NEW TREES
Refer Plant Schedule

PROPOSED SHRUBS
Refer Plant Schedule

PAVEMENT TYPE 1
COLORED CONCRETE

PAVEMENT TYPE 2
COLORED CONCRETE /
ABRASIVE BLAST FINISH

PAVEMENT TYPE 3
PLAIN GREY

PAVEMENT TYPE 4
COBBLESTONE

PAVEMENT TYPE 2
ARTWORK ON COLORED
CONCRETE FLOOR

TURF GRASS

SYNTHETIC TURF

MULCH

DECKING

RAISED GARDEN

SEATING 1
Refer specification

SEATING 2
Refer specification

SEATING 3
Refer specification

SEATING 4
Refer specification

SEATING 5
Refer specification

NEW FENCING TBC

SANDSTONE LOG

SHADE SAIL

INDICATIVE ART PAINTING ON THE FLOOR

H	26.06.23	TENDER
G	14.04.23	TENDER
F	04.04.23	95%
E	28.02.23	95%
D	23.02.23	95%
C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%
REV	DATE	COMMENTS

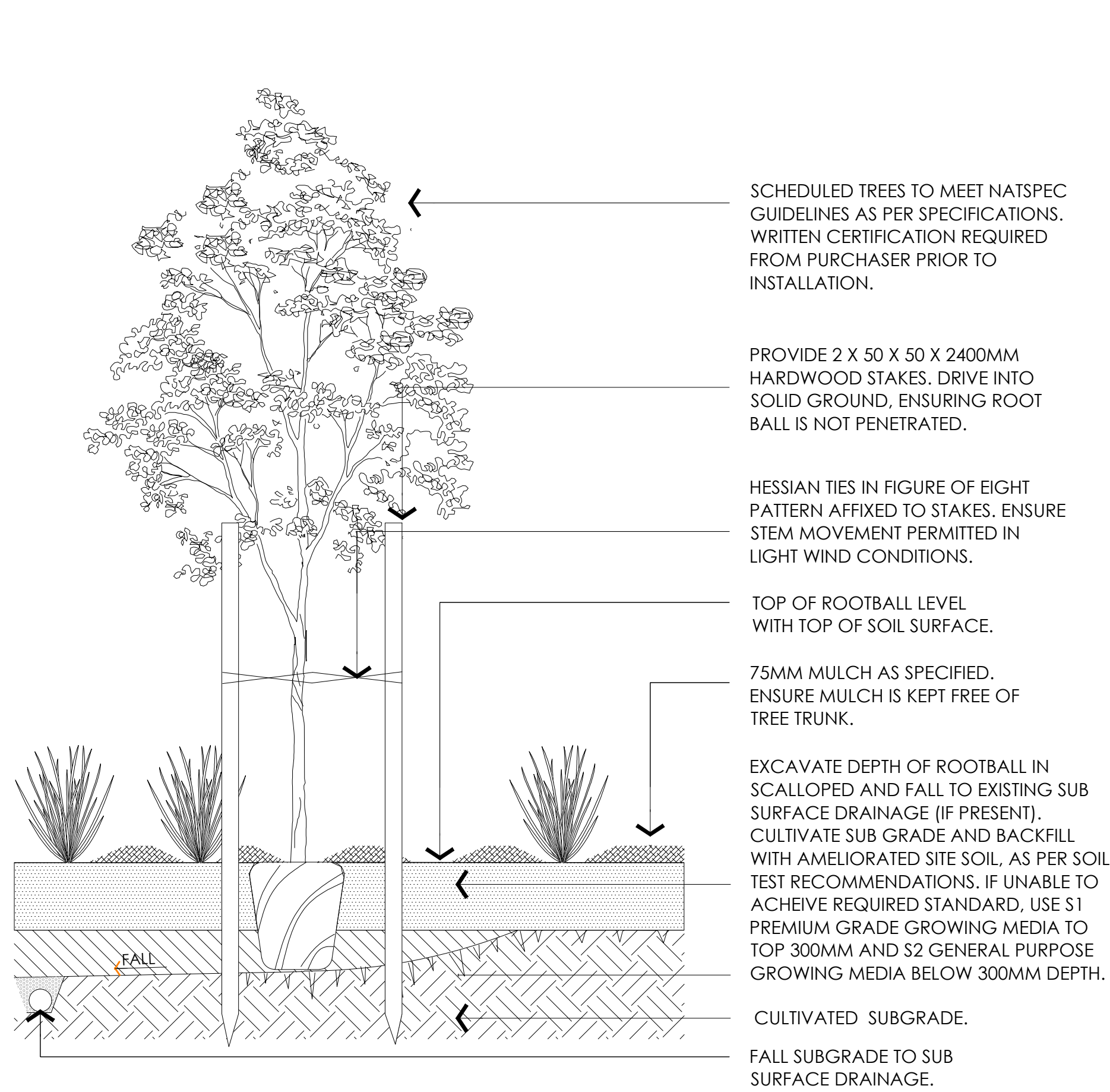
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**newcastle high school
landscape plan 09**

SITE:
**160 / 200 parkway avenue,
hamilton south**

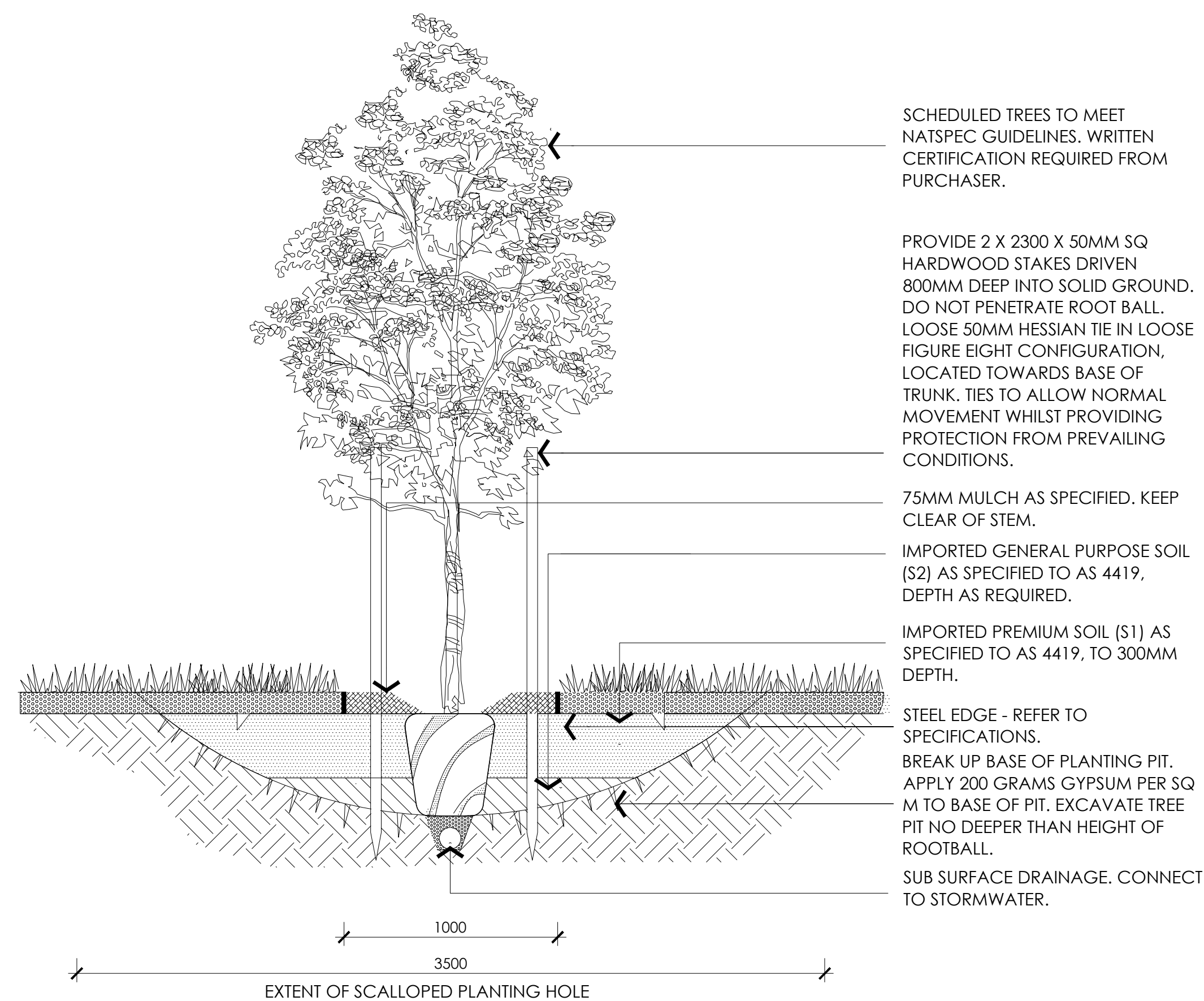
CLIENT:
school infrastructure nsw

DRAWN: GF DATE: 26.6.23 SCALE: 1:250@A3

JOB NUMBER: 13331.5 T PHASE: L110 DWG No: H REV:



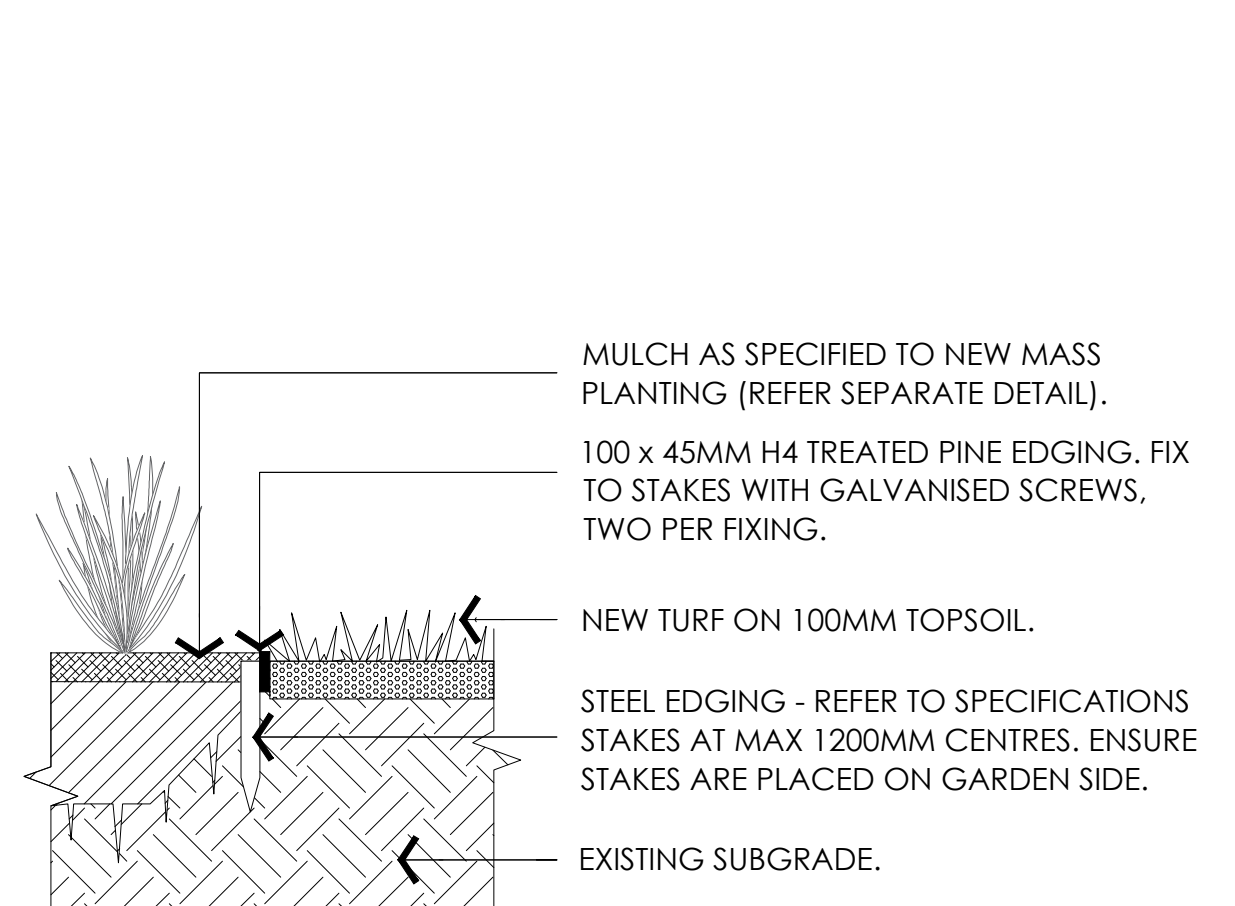
01 TREES IN MASS PLANTING
Typical Detail Scale 1:20



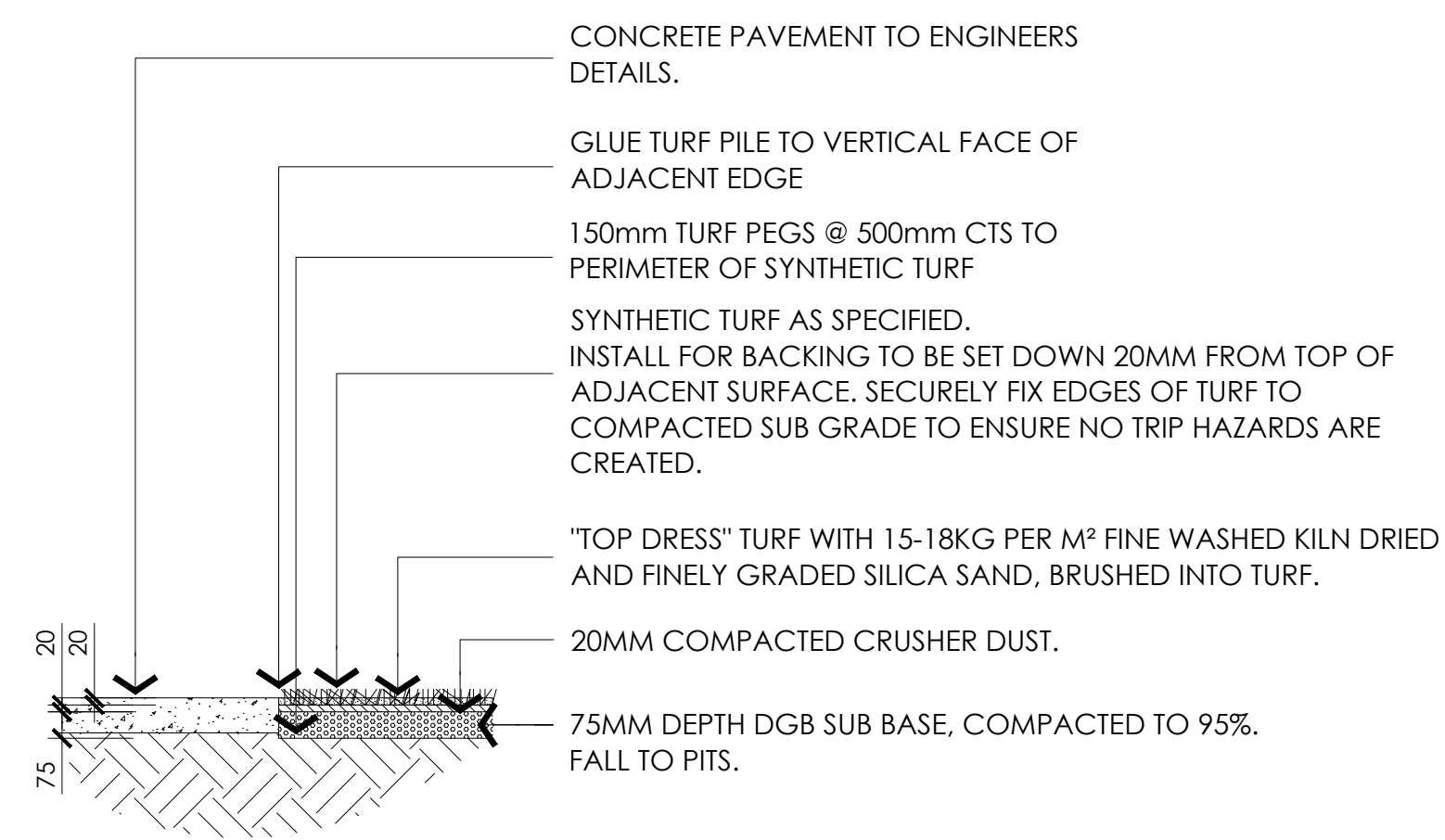
02 TREES IN TURF WITH STEEL EDGE
Typical Detail Scale 1:20



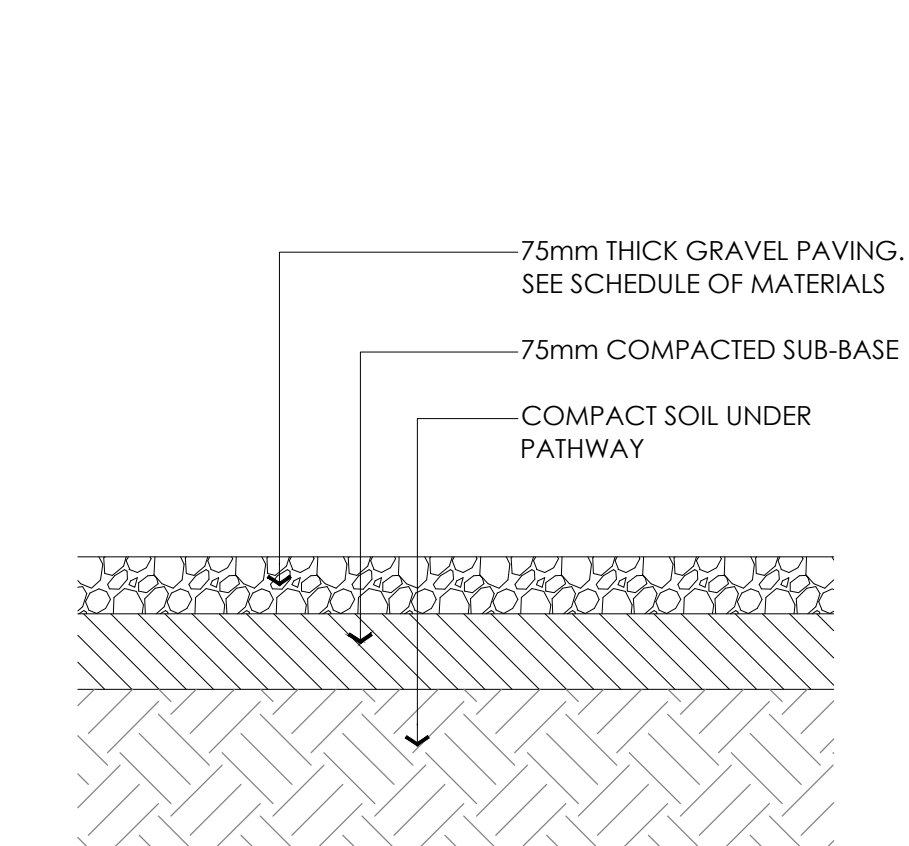
03 MASS PLANTING
Typical Detail Scale 1:20



04 TURF (T1) AND STEEL EDGE (SE)
Typical Detail Scale 1:20



05 SYNTHETIC TURF (T2)
Typical Detail Scale 1:20



06 DECOMPOSED GRANITE
Typical Section Scale 1:20

H	26.06.23	TENDER
G	14.04.23	TENDER
F	04.04.23	95%
E	28.02.23	95%
D	23.02.23	95%
C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%
REV	DATE	COMMENTS

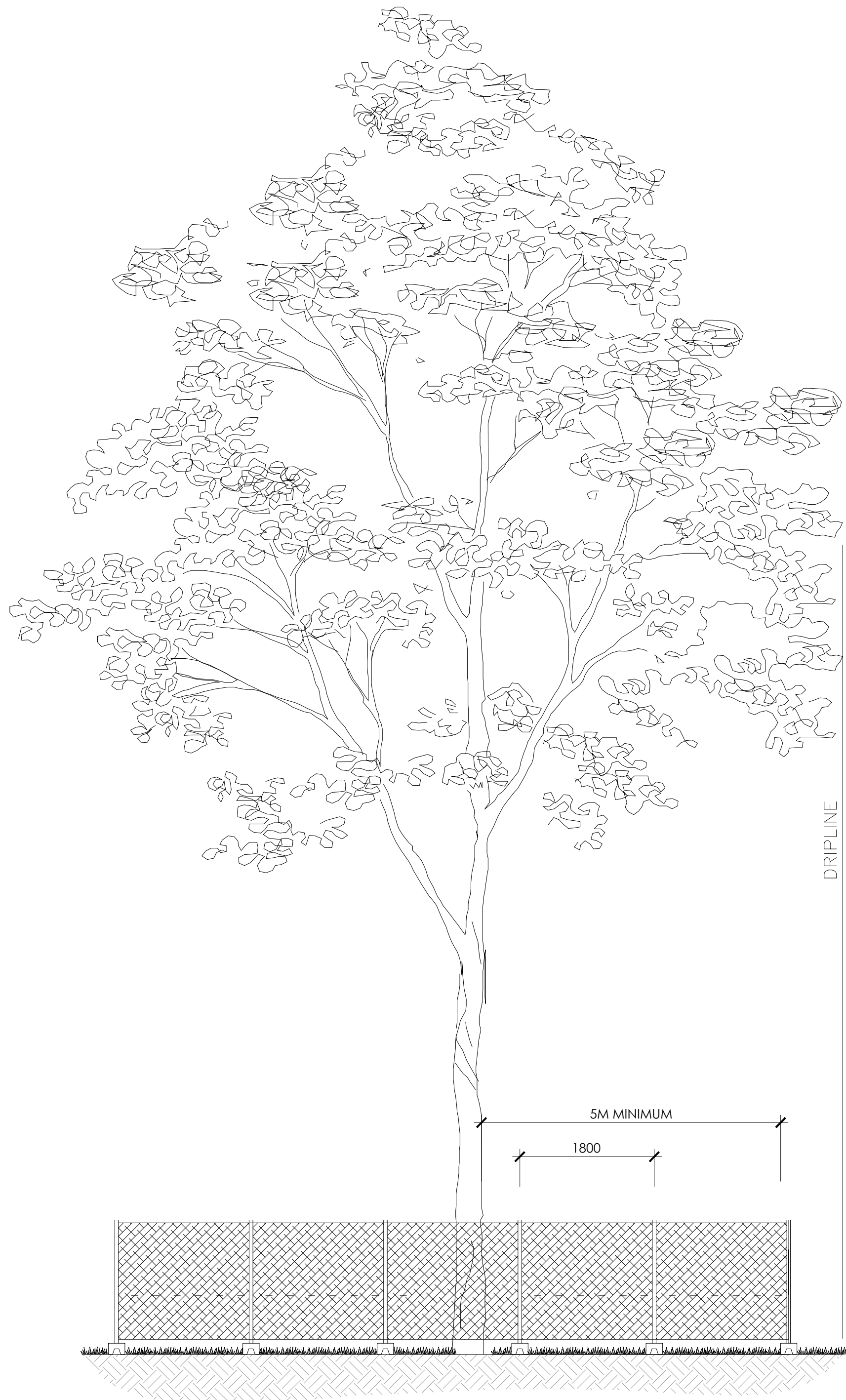
PROJECT:
**newcastle high school
landscape details 01**

SITE:
**160 / 200 parkway avenue,
hamilton south**

CLIENT:
school infrastructure nsw

DRAWN: GF DATE: 26.6.23 SCALE: NTS

JOB NUMBER: 13331.5 T PHASE: L301 H DWG No: REV:



INSTALL PROTECTIVE FENCING AROUND ALL TREES TO BE RETAINED WITHIN THE CONSTRUCTION ZONE A MINIMUM OF 4M FROM THE TRUNK OR AS INDICATED BY ARBORIST.

FENCING TO BE FREE STANDING TEMPORARY CONSTRUCTION FENCING.

CLEARLY LEGIBLE SIGNAGE TO BE ATTACHED AT EYE LEVEL EVERY 10 METRES, READS "NO VEHICLES OR STOCKPILES INSIDE TPZ. NO UNAUTHORISED PERSONS". MINIMUM 4 SIGNS.

NOTES:

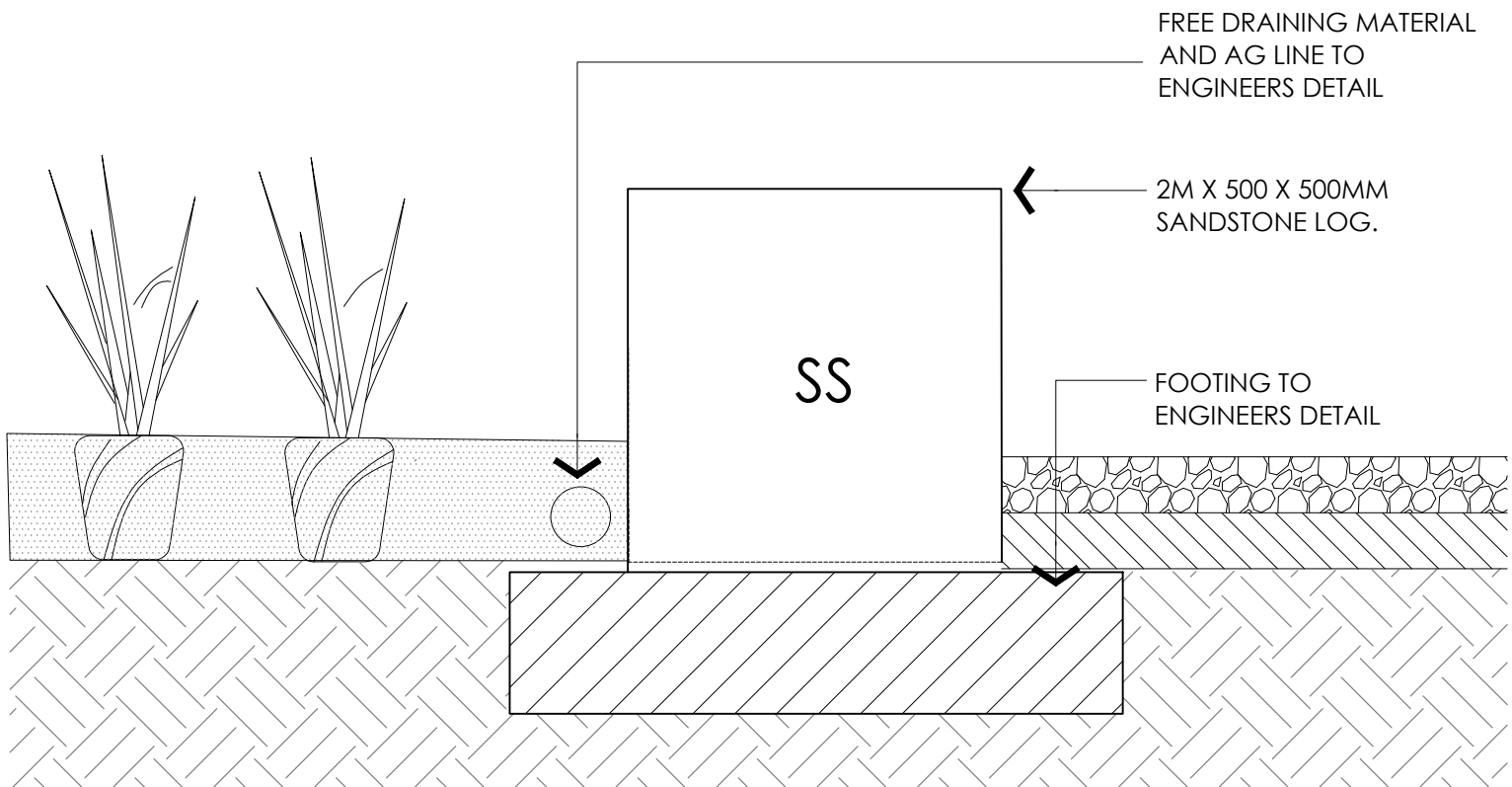
TREE PROTECTIVE FENCING SHALL BE IN PLACE BEFORE ANY OTHER SITE WORK IS UNDERTAKEN. FENCE MUST BE STRONG AND VISIBLE. POST NOTICES TO KEEP MACHINERY, VEHICLES AND PEOPLE OUT.

NO MATERIAL STOCKPILES ARE TO BE STORED OR PLANT / MACHINERY TRAFFIC OR PARKING IS TO OCCUR WITHIN THE DRIPLINE OF RETAINED TREES.

BEFORE WORK BEGINS, THE RETAINED TREES SHALL BE INSPECTED BY A QUALIFIED ARBORIST AND ANY REQUIRED PRUNING OR ANCILLARY WORK CARRIED OUT.

ARBORIST ALSO TO BE CONSULTED ON LOCATION AND CONSTRUCTION OF PATHS WHEN LOCATED WITHIN 5M OF AN EXISTING TREE.

01 TEMPORARY PROTECTIVE FENCING (TPF)
Typical Detail
Scale 1:100 @ A3



02 SANDSTONE BLOCK
Typical Section
Scale 1:20

H	26.06.23	TENDER
G	14.04.23	TENDER
F	04.04.23	95%
E	28.02.23	95%
D	23.02.23	95%
C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%
REV	DATE	COMMENTS

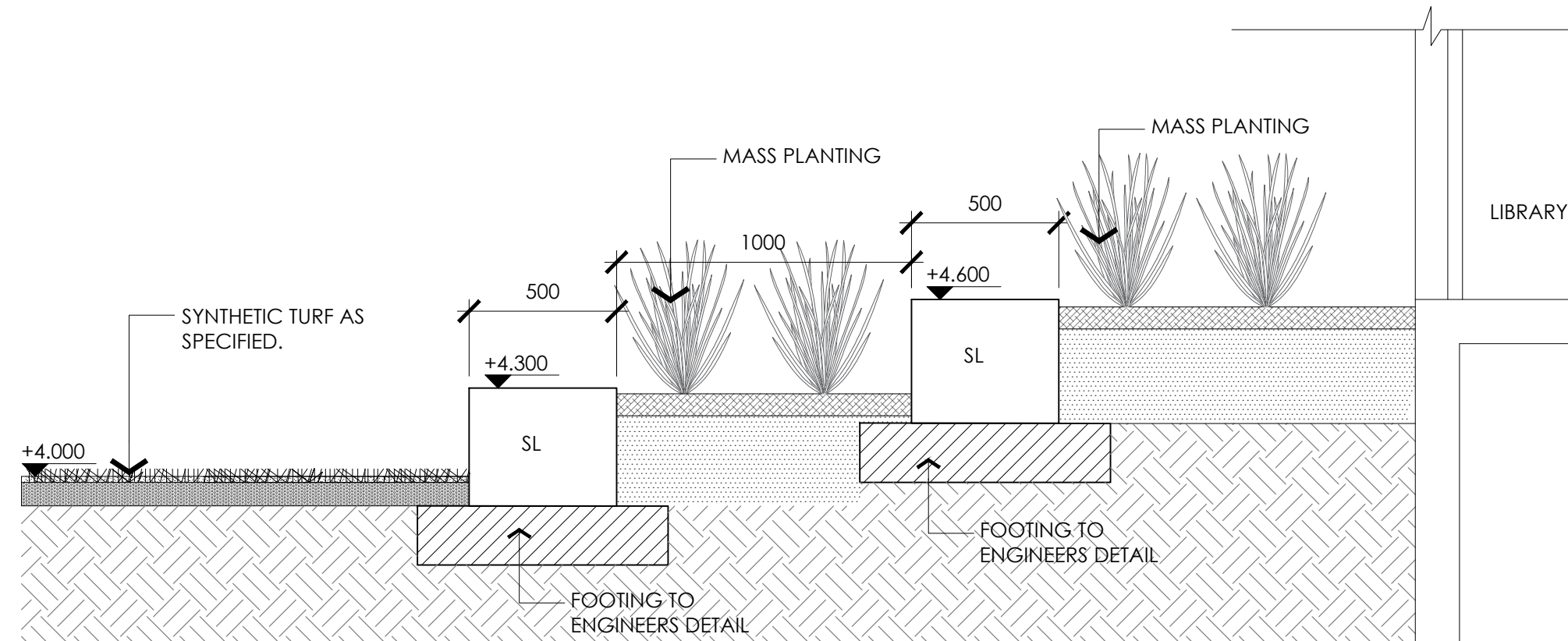
PROJECT:
**newcastle high school
landscape details 02**

SITE:
**160 / 200 parkway avenue,
hamilton south**

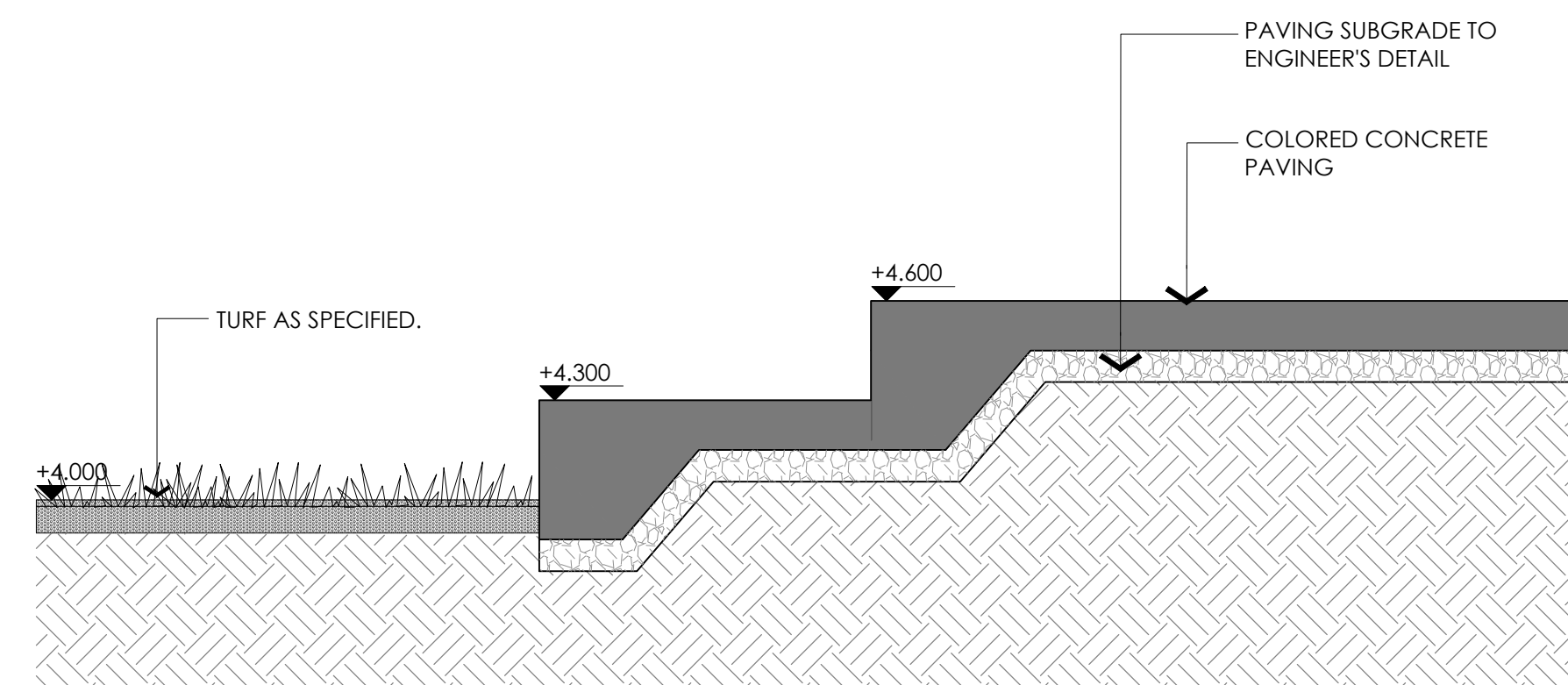
CLIENT:
school infrastructure nsw

DRAWN: DATE: SCALE:
GF 26.6.23 NTS

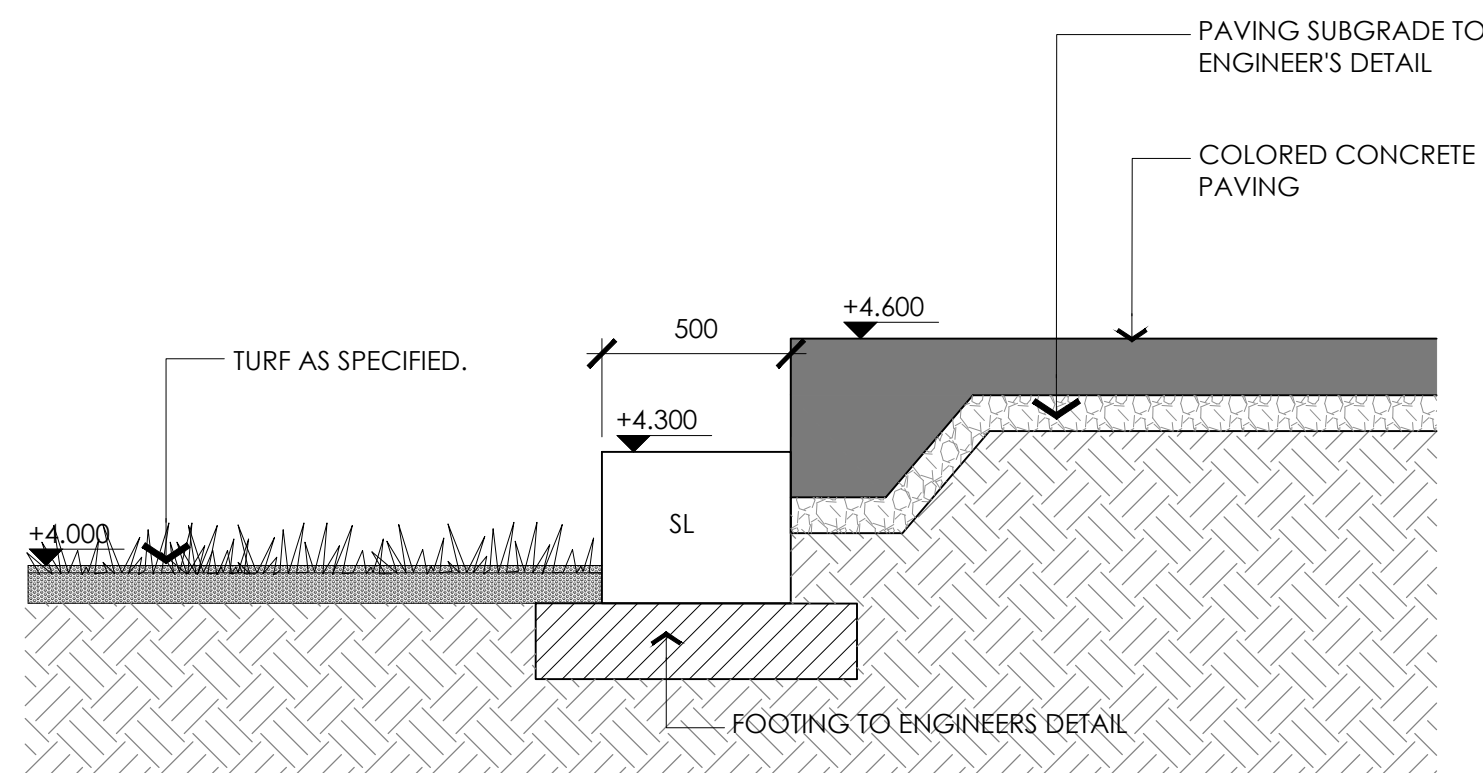
JOB NUMBER: PHASE: DWG No: REV:
13331.5 T L302 H



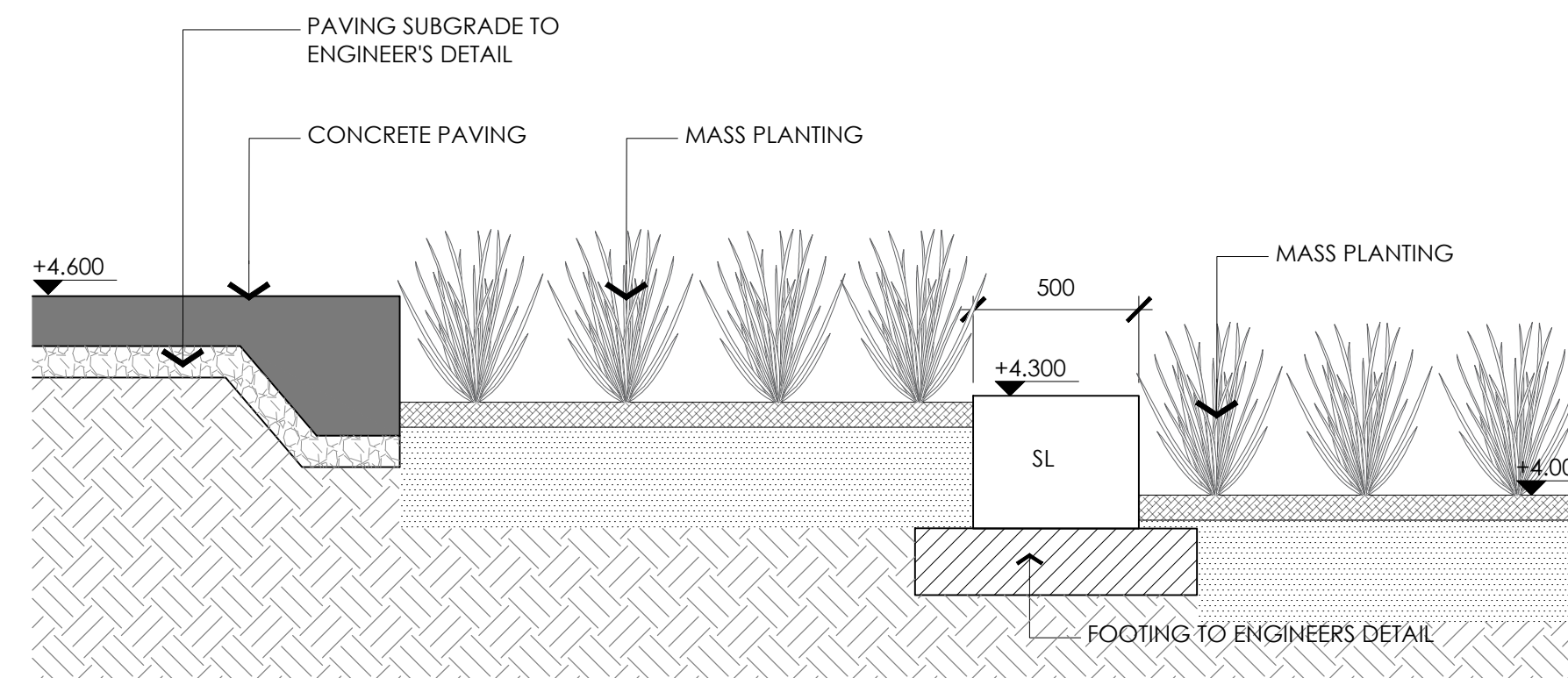
01 GARDEN BED- SANDSTONE LOG
Typical Section Scale 1:40 @ A3



02 PAVEMENT- SANDSTONE LOG
Typical Section Scale 1:40 @ A3



03 PAVEMENT- SANDSTONE LOG
Typical Section Scale 1:40 @ A3



04 PAVEMENT- SANDSTONE LOG
Typical Section Scale 1:40 @ A3

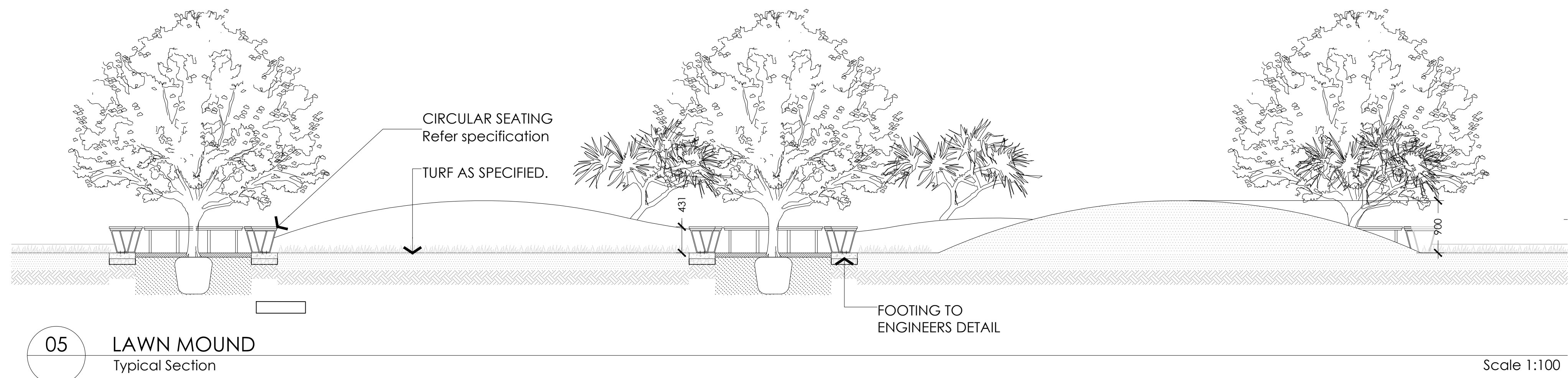
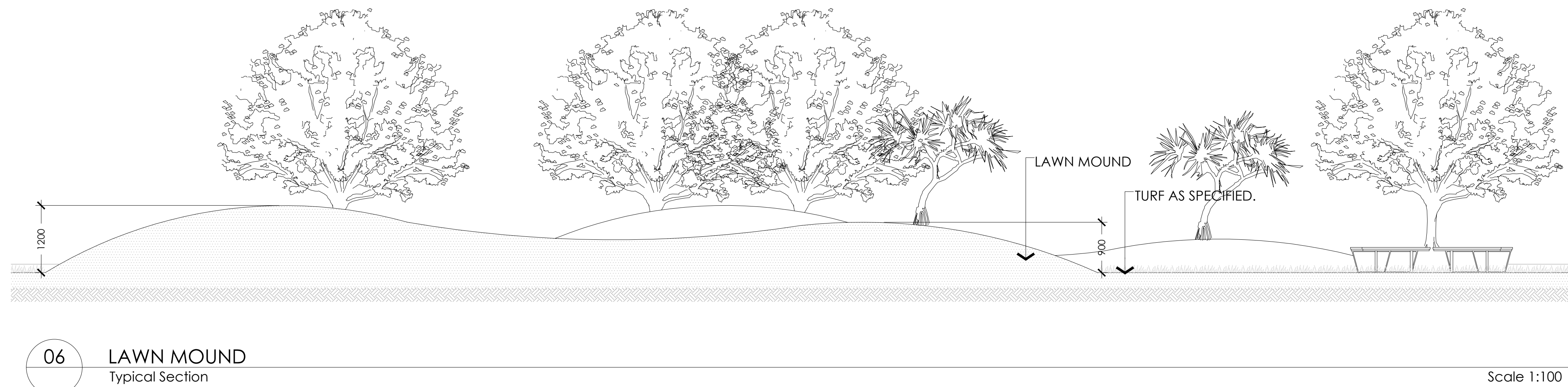
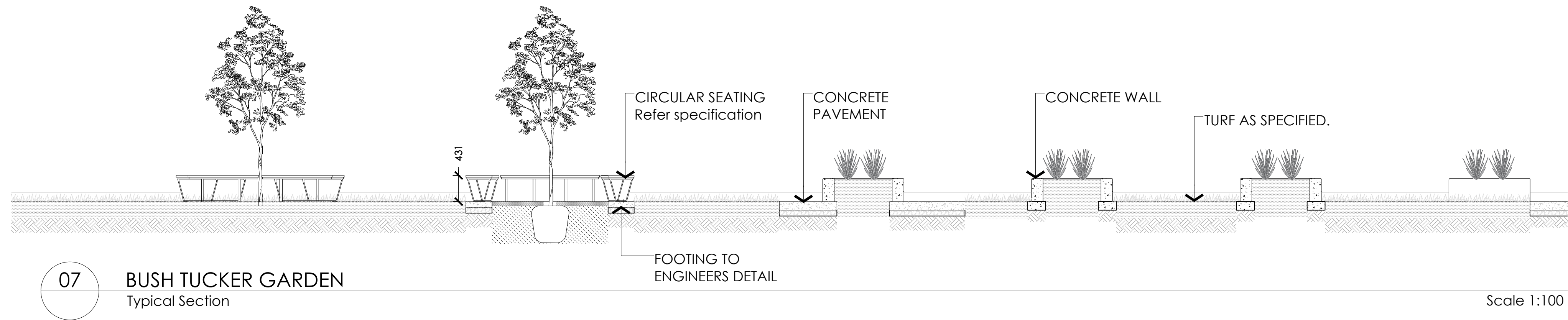
H	26.06.23	TENDER
G	14.04.23	TENDER
F	04.04.23	95%
E	28.02.23	95%
D	23.02.23	95%
C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%
REV	DATE	COMMENTS

PROJECT:
**newcastle high school
landscape details 03**

SITE:
**160 / 200 parkway avenue,
hamilton south**

CLIENT:
school infrastructure nsw

DRAWN: GF DATE: 26.6.23 SCALE: NTS
JOB NUMBER: 13331.5 T PHASE: L303 H DWG No: REV:



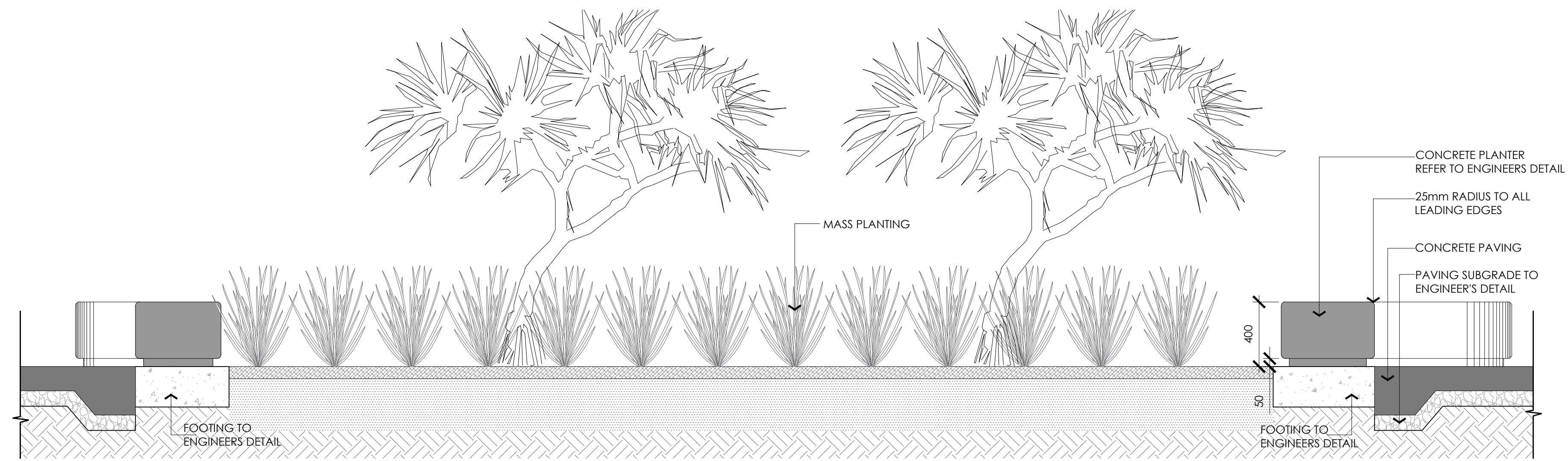
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G	14.04.23	TENDER
F	04.04.23	95%
E	28.02.23	95%
D	23.02.23	95%
C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%

PROJECT:
**newcastle high school
 landscape details 04**

SITE:
**160 / 200 parkway avenue,
 hamilton south**

CLIENT:
school infrastructure nsw

DRAWN: GF DATE: 26.6.23 SCALE: NTS
 JOB NUMBER: 13331.5 T PHASE: L304 H
 DWG No: REV:

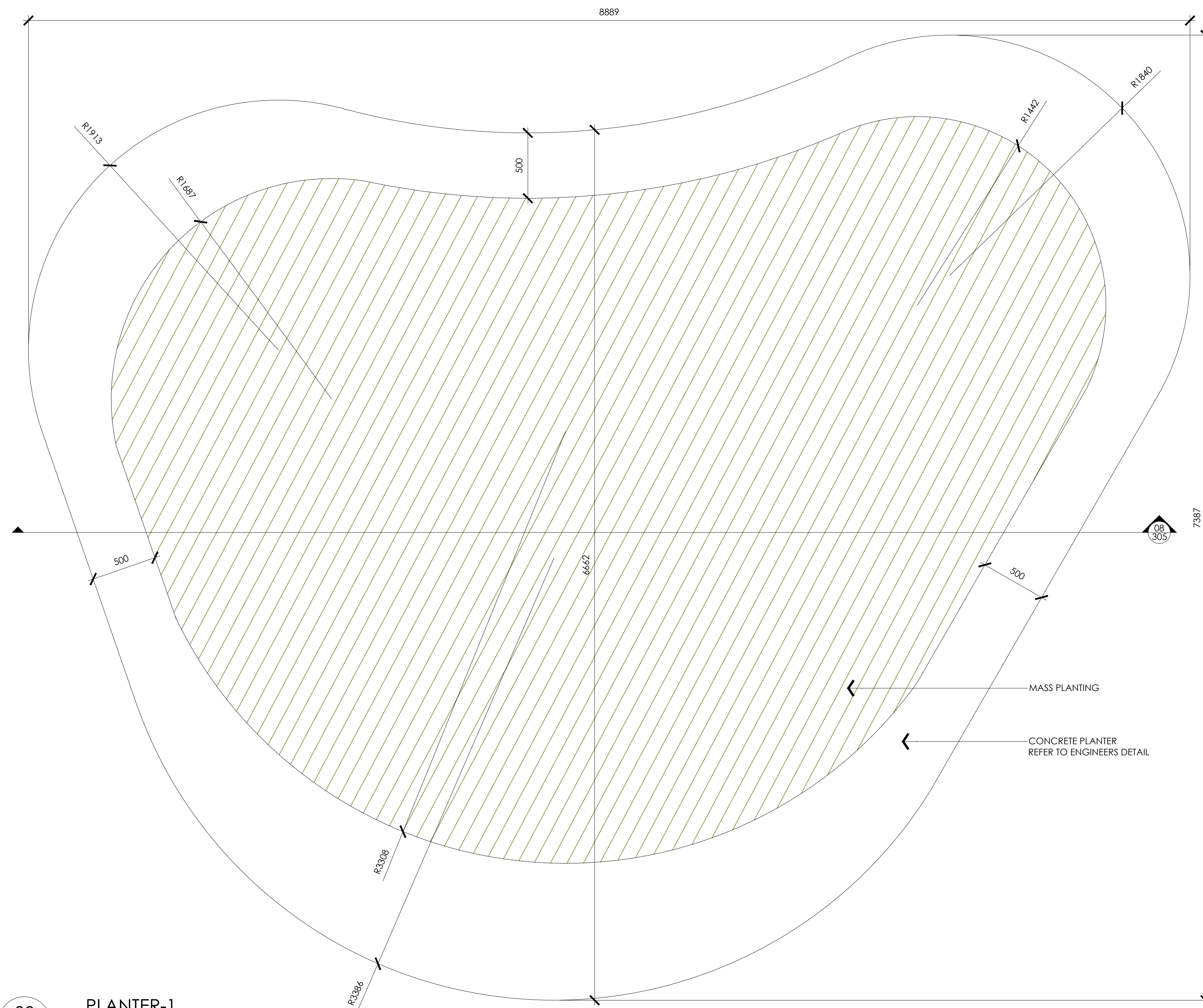


08

PLANTER

Typical Section

Scale 1:40 @ A3



08

PLANTER-1

Detail Plan

Scale 1:40 @ A3

H	26.06.23	TENDER
G	14.04.23	TENDER
F	04.04.23	95%
E	28.02.23	95%
D	23.02.23	95%
C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%

PROJECT:

**newcastle high school
landscape details 05**

SITE:

**160 / 200 parkway avenue,
hamilton south**

CLIENT:

school infrastructure nsw

DRAWN:
GF

DATE:
26.6.23

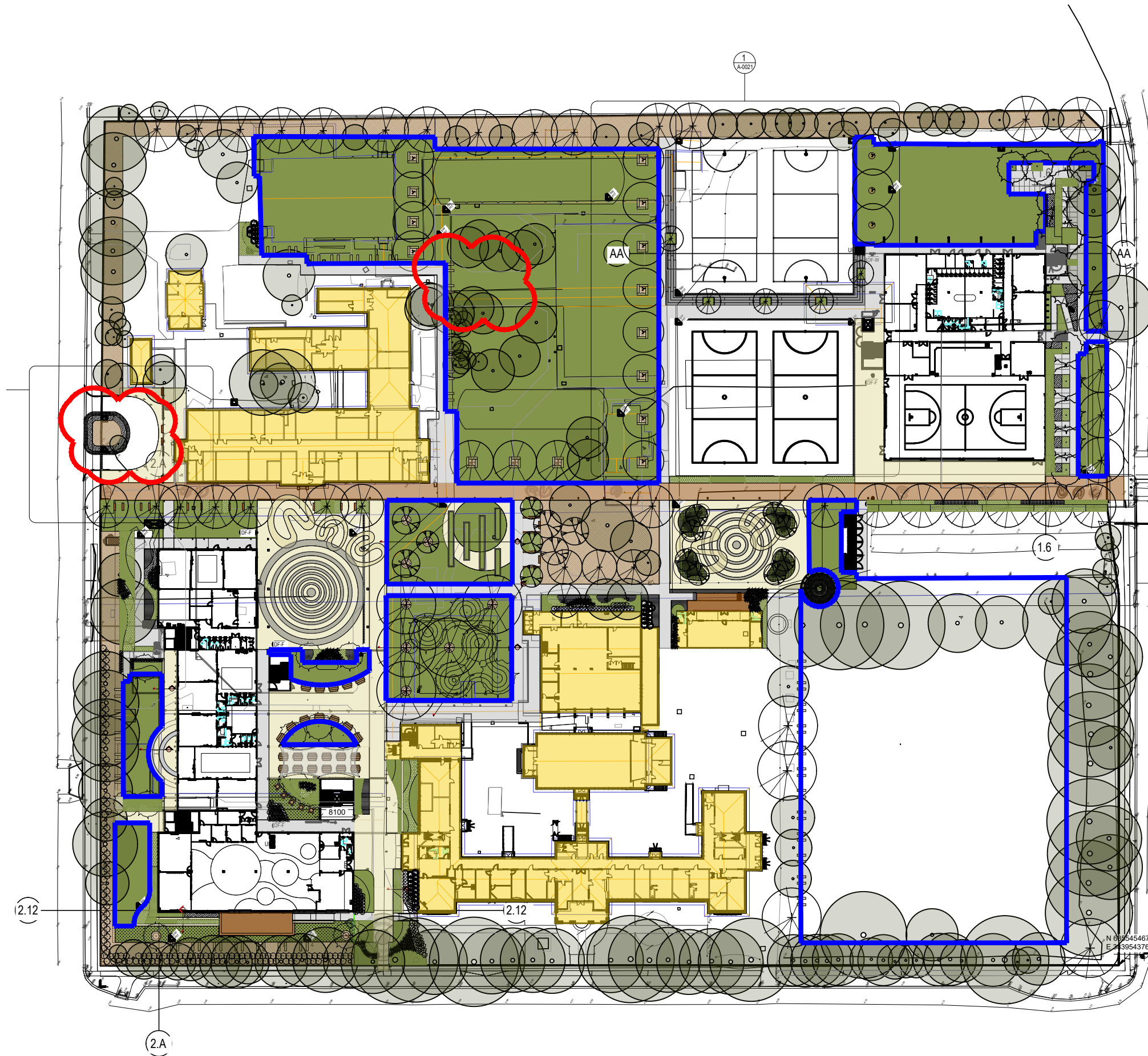
SCALE:
NTS

JOB NUMBER:

PHASE:

DWG No: REV:

13331.5 T L305 H



J	30.09.23	TENDER
I	06.09.23	TENDER
H	23.06.23	TENDER
G	14.04.23	TENDER
F	04.04.23	95%
E	28.02.23	95%
D	23.02.23	95%
C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%
REV	DATE	COMMENTS

PROJECT:
**newcastle high school
irrigation areas**

SITE:
**160 / 200 parkway avenue,
hamilton south**

CLIENT:
school infrastructure nsw

DRAWN: DATE: SCALE:
GF 30.09.23 1:1000@A3

JOB NUMBER: PHASE: DWG No: REV:
13331.5 T L306 J

GENERALLY

All landscape works shall be carried out by members of the landscape contractors' association of NSW & ACT or who are eligible to successfully obtain membership. The Contractor shall allow for all restriction to his operations caused as a result of other contractors, likely damage to existing structures, fences, retaining walls, pavements, services or other improvements either within or outside the site. The Contractor shall be responsible for ensuring that full and adequate protection from damage shall be provided to all finished surfaces and material subject to staining or other disfigurement, and shall be responsible for making good all damages and disfigurement. It is the responsibility of the contractor to supply a dilapidation report to the Superintendent documenting any prior damage before commencing work on site.

Check with engineer's drawings to see extent of earthwork, drainage, changes in and location of services, coordinated works as required.

Making good shall apply to any area affected by the contractor that does not form part of the trial works and shall include but not be limited to the contractor's compound, stockpile areas, sedimentation and erosion control measures, etc. Making good shall require the contractor to repair any damage and/or return disturbed areas to a pre-construction state and may involve some or all of the following:-

- Removing all contractor's structures (eg. site sheds), fences, barriers, unused or unwanted materials;
- Removing contaminants and affected ground;
- Returning levels to existing;
- Decompaction;
- Ripping;
- Spreading topsoil
- Resurfacing (including turfing and revegetation).

STANDARDS

REFERENCED DOCUMENTS:
AS 2303 Tree Stock for Landscape Use 2015
AS 4454 Composts, Soil Conditioners and Mulches 2003
AS 4373 Pruning of Amenity Trees - 2007
AS 4970 Protection of Trees on Development Sites - 2009
Soils for Landscape Development, Selection, Specification & Validation (Leake & Haegel) - 2014

ORDERING

REQUIREMENT:Within 14 days of the date of acceptance of tender, furnish proof of ordering the required materials, and advise immediately if any supply difficulties are encountered. Substitutions shall not be approved unless accepted in writing by the supervisor. The plant schedule shall be the accepted document for plant quantities and sizes to be used for the project. Where discrepancies arise between the drawings and the plant schedule seek clarification from the supervisor as soon as practicable.

INSPECTION - HOLD / WITNESS POINTS

It is the responsibility of the contractor to contact and co-ordinate with the Superintendent during the construction period for hold points / witness points.

NOTE:
Hold points (HP) require inspection by Terras Landscape Architects in order to complete final signoff. Written approval is required to proceed.
Witness Points (WP) require verbal approval to proceed and approvals dates and contacts shall be diarised as evidence of approval.

Give minimum two (2) days notice (unless otherwise indicated) to the Principals authorised person for inspections to be made at the following stages, as applicable. Do not proceed with further works until formal approval is provided from the authorised person for each of the hold points. Contractor shall be required to amend / alter any works completed without hold points reviewed.

Extent, excavation and setout of proposed hardworks (HP).
Clarification on site of set-out points for any trenching or utility realignment (HP).
Form work and reinforcing (HP).
Pre-pour inspections for pavement and pathways (HP).
Conduits setout (WP).
Set out and inspection of permeable pavement (HP).
Trial oxide coloured pavements samples (HP).
Plants available on site or local nursery prior to planting (HP).
Subgrades cultivated and/or prepared prior to placing topsoil (HP).
Plant material set out before planting (WP).
Planting, staking and tying completed (WP).
Review of works as executed with nominated Terras Landscape Architects and Council's Project Officer prior to completion report sign off (HP). -
Practical completion: Completion of all landscape works as documented on the drawings (HP).
Completion of planting establishment work / defects periods (HP).

TREES

TREES SHALL COMPLY WITH AS 2303 TREE STOCK FOR LANDSCAPE USE 2015.

Written evidence of compliance to be submitted prior to delivery on site. This is to be in the form of a written report and / or checklist and include photos.

INSPECTION OF TREES

The following is a summary of the Natspec 2 guide and does not replace the full requirements contained therein.
TIMING: Trees may be inspected before shipment.
PARTIAL SAMPLING: Expose a small section of the rootball, by washing, sufficient to permit inspection of root development from the stem to the outer extremity. After inspection, carefully replace soil.
Root systems: Root systems may be inspected using partial sampling at the rates nominated in AS 2303.
FORWARD ORDER CONTRACTS: Submit regular reports in writing to the contract administrator. Include checks against specification requirements, and current photographs.
Inspection frequency: 3 months
Report frequency: 3 months.
COMPLIANCE: Non-compliance may lead to rejection of the entire batch.
Substitution: If non-complying trees are proposed, submit proposal in writing to the contract administrator. Only written approvals of substitution are recognised. Submit a copy of the written approval of substitution with the non-complying trees.
HOLDING PROPOSALS: Submit proposals in writing to the contract administrator for proposed methods for holding trees beyond specified dates so that trees will continue to comply.
SHIPMENT: Responsibility of Landscape Contractor.
BULK MATERIALS: 2 kg sample of each type specified. Submit bulk material samples, not less than 2 working days before bulk deliveries.

EXISTING SERVICES

Existing services on site may include but not limited to storm water drainage, water, and associated power service conduits. Locations of all services should be established prior to excavation and cultivation of planting beds and installation of trees etc. Do not excavate by machine within 1m of existing underground services without prior approval or identification of service locations. Services locations where shown are approximate only, the true location of actual in ground services must be determined by the contractor on site.

WORK NEAR TREES

PROTECTION: Protect trees to be retained from damage. Take necessary precautions. Do not store or otherwise place bulk materials and harmful materials under or near trees. Do not place spoil from excavations against tree trunks, even for short periods. Prevent damage to tree bark. Do not attach stays, guys and the like to trees. Avoid compaction of the ground under trees.
WORK UNDER TREES: Do not add or remove topsoil within the Tree Protection Zone (TPZ) or drip line (whichever is the greater. Use hand methods such that root systems are preserved intact and undamaged. Open up excavations under tree canopies for as short a period as possible. Ensure all cuts are clean using sharp and uncontaminated tools.
ROOTS: Where it is necessary to cut tree roots, use means such that the cutting does not unduly disturb the remaining root system.
DAMAGES: Any damage to trees to be retained will be attended to by a qualified arborist who will prepare a report covering rectification works. Submit report to supervisor for approval. Conduct remedial works as required including removal and replacement if so recommended. All costs to be borne by the contractor.

WEEDS

Eradicate weeds by environmentally acceptable methods using a non-residual Glyphosate herbicide at the manufacturer's recommended rates. Regularly remove, by hand, rubbish and weed growth that may occur or recur throughout grassed, planted and mulched areas. Continue eradication throughout the course of the works and during the Planting Establishment Period so that a weed free area is established at completion of the establishment period.

SETOUT AND DIMENSIONS

Critical design dimensions shall be obtained by the landscape contractor by survey before commencing work. Check engineers drawings to determine extent of earthworks, structures.

SUBSOIL DRAINAGE

SCOPE: Provide sub soil drains to all mass planting beds and as indicated and where necessary to intercept groundwater seepage and prevent water build up behind retaining walls and under pavement. Connect subsoil drains to the stormwater drainage system. Refer to plans and details.
Ensure that under concrete conduits are installed for irrigation pipes (where applicable).
STANDARD: To AS 3500.
INSPECTION: Give sufficient notice so that inspection may be made at the following stages:
- Sub-soil drainage laid in position prior to covering.
CONNECTION: If connection into an existing drain is required, carry out the excavation necessary to locate and expose the connection point. On completion, reinstate the surfaces and elements which have been disturbed such as roads, pavements, kerbs, footpaths and nature strips.
PIPE DEPTH: Comply with the following minimum depths, measured to the crown of the pipe:
- 100mm below formation level of the pavement, kerb or channel.
- 100mm below the average gradient of the bottoms of footings.
- 450mm below the finished surface of unpaved ground.

SUBSOIL DRAINS:
PERFORATED PLASTIC PIPE: To AS 2439.1
DIAMETER: 90mm.
JUNCTIONS: Use purpose made fittings.
BACKFILLING: Backfill with 20mm nominal size washed screenings, to the following depths:
- To the underside of the bases of overlying structures such as pavements, slabs and channels.
- To within 75mm of the finished surface of unpaved or unhandicapped areas.
FILTER FABRIC: Use polymeric fabric formed from a plastic yarn containing stabilizers or inhibitors to make the filaments resistant to deterioration due to UV light.
IDENTIFICATION AND MARKING: To AS 3705
PROTECTION: Protect the fabric from prolonged exposure to sunlight. Filter sock: Use an approved permeable polyester sock capable of retaining particles of 0.25mm size. Securely fit or join the sock at each joint by tape or other approved means.

MULCH

GENERALLY: Use mulch as scheduled which is free of deleterious and extraneous matter such as soil, weeds and sticks. Use organic mulches which are free of stones **and comply with Australian Standards specifying less than 5% fines.** Use first well rotted mulch chipped on site, chip to match ANL 'Forest Blend' 20-40mm mulch. Additional mulch to be made from 100% recycled Grade A green waste and waste wood equal to Australian Native Landscape's Forest Blend® (20-40mm).
APPLICATION: Place mulch to the required depth, clear of plant stems, and rake to an even surface flush with the surrounding finished levels.

SOILS

TESTING
Undertake soil tests on stockpiled soil designated for re-use, or imported organic soil, if requested and provide copies of test results to the Superintendent. Ameliorate as recommended in soil tests to bring soil up to the standards for horticultural grade organic soil to Australian Standards.
GENERAL: To ***Soils for Landscape Development, Selection, Specification and Validation***, by Simone Leake and Elke Haegel (2014).

SUBSOIL PREPARATION
CULTIVATION: Cultivate bases of planting holes and beds 150mm, do not use augers unless followed with cultivation of sides and base. Do not disturb services or tree roots; if necessary cultivate these areas by hand. Cultivate manually within 300 mm of paths or structures. Remove stones exceeding 25 mm, clods of earth exceeding 50 mm, and any weeds, rubbish or other deleterious material brought to the surface during cultivation. Trim the surface to the required design levels after cultivation.

SUBSOIL ADDITIVES
ADDITIVES: Apply required additives to stockpiled site topsoil as required by soil tests if scheduled in this specification.
GYPSUM: Provide 150g/m.sq gypsum to base of all tree planting locations unless otherwise approved.

SOIL LEVELS

Finished soil levels shall allow turf or mulch to be finished level to the top of timber edging, pavement or as otherwise shown on drawings.

DRAINAGE: The contractor shall incorporate drainage to the bottom of the area of soil as indicated in the working drawing, which connects to the stormwater system. Provide free drainage aggregate above drainage lines to the top of new soil levels to ensure vertical drainage from surface.

PLACING SOIL: Place the approved soil on the prepared subsoil. Spread and grade evenly, making the necessary allowances so that the required finished levels and contours may be achieved after light compaction. Prevent areas of excess compaction being caused by constructional plant. Avoid differential subsidence and produce a finished soil surface which is:
- at design levels;
- smooth and free from stones or lumps of soil;
- graded to drain freely, without ponding, to catchment points;
- graded evenly into adjoining ground surfaces; and
- ready for planting.

COMPOST

DESCRIPTION: Well rotted vegetative material or animal manure, or other approved material, free from harmful chemicals, grass and weed growth, and with a neutral Ph value.

SOIL ADDITIVES
Provide proprietary soil additives, delivered to the site in sealed packaging marked to show manufacturer's or vendor's, name, weight, type (including analysis), recommended uses and application rates. Use in accordance with the manufacturer's recommendations. Apply to each plant/planting hole as applicable. (Note: turf to be broadscale).

H	26.06.23	TENDER
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A	12.12.22	25%
REV	DATE	COMMENTS

PROJECT:
**newcastle high school
landscape specifications 01**

SITE:
**160 / 200 parkway avenue,
hamilton south**

CLIENT:
school infrastructure nsw

DRAWN: DATE: SCALE:
GF 26.6.23 NTS

JOB NUMBER: PHASE: DWG No: REV:
13331.5 T L401 H

LANDSCAPE HARDWORKS

CONCRETE

GENERAL: The Contractor shall ensure that any concrete footways designated for retention are protected during the works, by the placement of signs, lights and barricades around the area as directed by the Superintendent.

The Contractor shall ensure that a smooth transition occurs with all adjoining surfaces.

STANDARDS:

Specification and supply: To AS1379.

Materials and construction: To AS3600.

Guide to residential pavements: To AS 3727.

The requirements for in situ concrete may be varied if it is reinforced. AS3727 can then be used for design purposes.

JOINTS:

Control Joints: Refer civil engineers documentation.

Expansion Joints: Refer civil engineers documentation.

Abutment with building: Where concrete paving more than 1500mm wide abuts the wall of a building, cast-in 10mm thick bitumen impregnated fibreboard between the paving and the wall. Otherwise, turn up the vapour barrier.

FINISHING METHODS:

Broom finishing: Wood float and broom to an even textured transverse scored surface with steel tooled margins. On gradients steeper than 10%, roughen the surface by scoring using a stiff brush or rake.

The texture or scoring is required to achieve a slip resistant surface.

Exposed aggregate finish: Steel trowel to a smooth surface. After final set use clean water and brushes to remove the surface film of mortar until the aggregate is uniformly exposed without under cutting of the matrix.

MATERIALS AND WORKMANSHIP

SCOPE: Concrete base slab to paved areas, exposed aggregate, steps and footings to walls and retaining walls, where appropriate as shown on plan.

FINISHES: The surface of the footpaths indicated as concrete finish shall be finished true and uniform and free from any glazed or trowelled finish and shall be finally dressed with a wooden float followed by a light brooming to give a uniform non-slip surface and shall be of coloured / uncoloured concrete as noted on landscape plans. Edges and tooled joints shall be smooth trowelled finish.

SUB-GRADE/SUB-BASE: All concrete shall be cast on an approved compacted sub-grade or sub-base which shall be dampened immediately prior to placing concrete. Sub-base concrete to have falls as shown on the drawings.

PUBLIC UTILITIES ETC: Location of public utilities shall be the Contractor's responsibility. Any adjustment or repair of damage to any public utility shall be the Contractor's responsibility and shall be carried out at no cost to the Principal.

Any alteration to Council drainage facilities, road pavement, etc., necessary for undertaking of works will be at the Contractor's full cost.

SURVEY MARKS: Survey marks may be found on the adjoining site as part of the field work for the survey provided, however it shall be the contractors responsibility to accurately determine the extent of work as shown, the site boundaries, setout and levels.

Note: The Surveyors' Act, the Survey Co-ordination Act and Ordinance 30 all prohibit the unlawful destruction of survey marks and anyone who so destroys a survey mark is liable to a fine plus re-establishment costs.

ADJACENT FOOTWAY: Any damage to footway paving surfaces shall be repaired by and at cost to the contractor. Where removal of existing concrete or asphalt is necessary, edges to be saw cut to the satisfaction of the Superintendent.

DEFECTIVE WORK: Any defects in the works caused by faulty materials, poor workmanship or other damage, shall be rectified or replaced by the Contractor at no cost to the Principal, to the requirements of the Superintendent.

PEDESTRIAN SURFACES

All surfaces subject to pedestrian traffic shall meet the minimum pendulum or ramp recommendations contained in Table 3 of Australian Standard Handbook HB 197:1999 An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials.

Compliance with the recommendations shall be verified by testing to either: AS/NZS 4586:1999 Slip Resistance Classification of New Pedestrian Surface Materials or, AS/NZS 4663:2002 Slip Resistance Measurement of Existing Pedestrian Surfaces as appropriate.

In both instances compliance shall be demonstrated by applying Clause 5.3 Means of Demonstrating Compliance of AS/NZS 5486:1999 Slip Resistance Classification of New Pedestrian Surface Materials.

EDGING

TIMBER EDGING (TE): Shall be assumed to be laid to the edges of all mass planting beds that interface with turf, gravel or mulched areas. Timber edging shall be fixed so that it does not lift, twist or create a trip hazard and finish flush with adjoining surfaces.

GALV STEEL (SE): 150 x 1.6mm hot dipped galvanised steel edging equal to 'Form Boss', fixed with 400 x 2.5mm galvanised steel tapered stakes and galvanised self tapping screws.

Installation: As per manufacturers specifications.

CONCRETE (CE): Machine extruded concrete mix to size and profile noted in schedule.

Installation: Preparation and installation as per manufacturers specifications.

MATERIAL: Refer to Schedule of Materials and Finishes.

IRRIGATION

The contractor shall design, supply, lay and maintain system for the supply of water as outlined in this specification.

Outline of Irrigation Works includes, but is not limited to the following:

SCOPE OF WORKS:

Design, supply, install, commission and maintain an efficient and economic commercial grade automatic irrigation system complete with

- Pumps for proposed water tanks,
- Coordination of A 240 volt power point and available water supply shall be provided at the controller locations by others. Allow for all necessary electrical work and cabling to connect the irrigation system from these points.
- Town water supply for each of the tanks for top up as required.
- Coordination of water supply
- Quick coupling valves to allow central connection in each of the turf areas to be irrigated
- Associated backflow prevention valves,
- Isolation valves,
- Piping,
- The systems to have a minimum life span of 10 years.
- All pipework to be installed as deep as possible while being above the capping layer geotextile fabric

DRAWINGS: Provide three (3) copies of complete drawings, specification and authority approvals for comment by the Superintendent. Revise as required and submit to the relevant authorities and obtain approval. Irrigation works shall include the design and documentation of commercial grade irrigation systems, to approval by the Superintendent, including all requirements to meet the specified performance requirements;

MAINTENANCE MANUALS: Provide two (2) copies of a maintenance manual for the systems designed and installed. The maintenance manual shall contain details of the following:

- complete operating instructions for the systems;
- complete programming and operating instructions for the control system/ irrigation controller;
- full details of all equipment used in the systems;
- full maintenance and servicing instructions and maintenance program;
- any requirements of relevant authorities in relation to regular maintenance, inspections and records that are to be kept;
- copies of all approvals from relevant authorities.

Obtain approval of proposed irrigation system subcontractor. Provide trade, technical and product qualifications (to have approval of Local Water Authority), and suitable references.

SCHEDULED AREAS: Mass planted areas as shown on the landscape drawings.

Develop two watering schedules (summer and winter). Commission and monitor the systems during the development of the watering schedules and program the controllers.

WATER SOURCE: For irrigation systems connection: Allow to connect the system to the on site water reuse tank or as otherwise directed or agreed with the hydraulics engineer, and connect in accordance with the requirements of the Local Water Authority. Submit evidence of approval to the Superintendent prior to commencement.

Approvals:

Inspections:

- pipework laid in open trenches;
- positioning of drippers.

STANDARDS AND AUTHORITIES: All standards of workmanship and materials used shall conform to the Australian Standards for that work, including all Local Supply Authority requirements and relevant electrical standards for electrical work. Irrigation installer shall hold appropriate license from Local Water Authority.

WARRANTY: A minimum of a 12 month warranty is required.

CO-ORDINATION OF UNDERGROUND SERVICES: Be completely responsible for the coordination of the irrigation system (including water and power connections) with other services throughout the site.

IRRIGATION DESIGN: Provide the following documents for approval (within one week of the acceptance of the proposed irrigation subcontractor):

Design plans at scale 1:200 indicating the complete overall layout of the proposed irrigation installation to the entire areas defining pipe layout, electrical layout, sprinkler positions, etc.

All relevant information including the following details:

- product data
- performance data
- system description
- water demands.

System Type (to AS 3500.1 clause 7.2): Type C.

PIPES AND FITTINGS: UPVC complying with AS 1477-1973 and be Class 12. All pipes and fittings shall bear the stamp of a recognised water supply authority. All mainlines shall have a minimum cover of 600 mm. Lateral pipes shall have a minimum cover of 300 mm from the top of the pipe.

Thrust blocks: All pipework must be thrust blocked in accordance with the manufacturers recommendations.

COMPONENTS:

Drip Emitters: If using sub-surface drip emitters, to be equal to Netafim pressure compensated "Techline" (or Triangle Filtration Rootguard) delivering min capability of 2 L/h. The dripper shall have a uniform flow rate across a variable pressure range.

Polyethylene micro irrigation pipe: To AS 2698.1 Class IRRIG with barbed fittings of similar pressure rating fastened with ratchet type clamps. Lay polyethylene pipe on finished ground surface under mulch and anchored with U-shaped stakes. Connect micro-tube laterals with approved proprietary push in or screw in fittings.

Air relief valves: Provide a combination air release / vacuum valve to release air from the piping network. This valve shall be capable of releasing large amounts of air during initial filling of pipe and smaller amounts of air while operative. The valve shall also open under a vacuum to allow air to enter the system when pipe is drained. Valves will be positioned in valve boxes downstream of all solenoid valves.

Electric remote control valves: Control valves are to be electrically actuated hydraulically operate diaphragm type providing accurate control and isolation for different irrigation zones. Install in valve boxes (described below) for easy access and location. All valves are to be pressure regulating. The pressure regulation shall be via a three way pilot valve mounted on the solenoid valve. All 25mm solenoid valves shall be fitted with an in line pressure regulators (350kPa springs) to regulate the water pressure downstream of the valve. All solenoid valves shall be fitted with an isolating valve upstream so that the valve can be serviced.

All solenoid valves shall be 40mm BSP threaded, unless marked otherwise on the drawings and conform to the following specification:

CONSTRUCTION:

Engineered plastic and stainless steel.

DC solenoids for use with control system

- have adjustable flow control

- manual bleed

- rubber diaphragm

- globe configuration

- Operating pressure: 7-105 metres

- remote pilot pressure regulation (40mm)

Valve boxes: All valves shall be housed in an approved lockable valve box and be constructed of high density moulded polyethylene or Fiberglas and be fitted with a heavy duty lid.

Valve boxes shall be located in a location subject to the approval of the superintendent - an alternative system using remote infra red controllers may be accepted upon submission for approval.

Submit locations for approval. Each valve box shall be installed as deep as possible while being above the capping layer geotextile fabric to minimise downward force from the valve box cbeing transmitted onto the pipes.

Upon completion of the project mark each valve with black number approx 50 mm high indicating number of the corresponding station at the controller and the as built drawing.

I	27.06.23	TENDER
H	26.06.23	TENDER
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F	04.04.23	95%
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C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%
REV	DATE	COMMENTS

PROJECT:

newcastle high school
landscape specifications 02

SITE:

160 / 200 parkway avenue,
hamilton south

CLIENT:

school infrastructure nsw

DRAWN: DATE: SCALE:
GF 27.6.23 NTS

JOB NUMBER: PHASE: DWG No: REV:

13331.5 T L402 I

LANDSCAPE SOFTWARES

PLANTS

Supply plants to the following quality:

- are vigorous, well established, free from disease and pests, of good foliage, have large healthy root systems, with no evidence of root curl, restriction or damage;
- are hardened off, not soft or forced, and suitable for planting in the natural climatic conditions prevailing at the site.
- do not require staking to stand upright other than staking to control damage from strong winds or local conditions.

Staking should then be as detailed on the drawings and provide free movement with support only to protect from excessive movement.

SAMPLES: All plants shall be made available for inspection on site or at local nursery. The entire material represented may be rejected, except for plants with a correctable defect subject to satisfactory treatment.

SUBSTITUTIONS: Make no substitutions, unless approved by Superintendent.
CERTIFICATES: Refer Contractor's Submissions section for required certificates.
LABELLING: Label at least one plant in every 50 of each species or variety in each batch of plants delivered to the site, with a durable, readable tag.
REPLACEMENTS: Using plants of the same type, quality and size, replace any plants which are damaged whilst being transported to the site or during the work under the Contract, or which fail or are rejected.
STORAGE: Deliver plant material to the site on a day to day basis, and plant immediately after delivery. If this is not possible, keep the plants in good condition on the site, adequately protected from frost, wind, sun and vermin by appropriate storage methods, including an on-site nursery of sufficient size, with provision for watering the stock.
PLANT CONTAINERS: Supply plants in weed-free containers of the scheduled size.
POTTING-ON: Do not carry out potting-on unless authorised.
PLANT SCHEDULE: Plant quantities species, planting rates and source shall be as noted on landscape drawings allowing for extra replacements.
LOCATIONS: If it appears necessary to vary plant locations and spacings to avoid service lines, or to cover the area uniformly, or for other reasons, contact the Landscape Architect for approval. No changes are to be made without prior approval.
PLANTING CONDITIONS: Do not plant in unsuitable weather conditions such as extreme heat, cold, wind or rain. In other than sandy soils, suspend excavation when the soil is wet, or during frost periods.
WATERING: Thoroughly water the plants before planting, immediately after planting, and as required to maintain growth rates free of stress. Once established, progressively reduce watering over a 4 week period, hardening off to the natural climatic conditions.
WETTING AGENT: Undertake a single application of wetting agent to advanced trees after planting.

TURFING

TURF: Obtain turf from a specialist grower of cultivated turf. Use turf of even thickness, free from weeds and other foreign matter.
SUPPLY: Deliver the turf within 24 hours of cutting, and lay it within 36 hours of cutting. Prevent it from drying out between cutting and laying.
FERTILISING: Mix the fertiliser thoroughly into the topsoil before placing the turf. Apply lawn fertiliser at the completion of the first and last mowings, and at other times as required to maintain healthy grass cover.
LAYING: Lay the turf in the following manner:
In stretcher pattern with the joints staggered and close butted.
Parallel with the long sides of level areas, and with contours on slopes.
To finish flush, after tamping, with adjacent finished surfaces of ground, paving edging, or grass seeded areas.
TAMPING: Lightly tamp to an even surface immediately after laying. Do not use a roller.
WATERING: Water immediately after laying until the topsoil is moistened to its full depth. Continue watering to maintain moisture to this depth. Keep the grass in a healthy condition.
MOWING: Mow to maintain the grass height within the required range. Carry out the last mowing not more than seven days before the end of the planting establishment period. Remove grass clippings from the site after each mowing.
MAINTENANCE: Maintain the turfed areas until the attainment of a dense continuous sward of healthy and evenly green grass over the whole area. Lift failed turf and relay with new turf.
TOP DRESSING: When the turf is established mow, remove cuttings and lightly top dress entire turf area to a depth of 10 mm. Rub the dressing well into the joints and correct any unevenness in the turf surface.

PLANT ESTABLISHMENT

PERIOD: The Planting Establishment Period commences at the date of issue of a written certificate of Practical Completion from the Superintendent.

PROGRAM: Furnish a proposed planting maintenance program with the tender

LOG BOOK: Keep a log book recording when and what maintenance work has been done and what materials, including toxic materials, have been used. The logbook is to be progressively updated at the completion of each day's work. Make the log book available for inspection on request.

RECURRENT WORKS: Throughout the Planting Establishment Period, continue to carry out recurrent works of a maintenance nature including, but not limited to, watering, mowing, weeding, rubbish removal, fertilising, pest and disease control, staking and tying, replanting, cultivating, pruning and keeping the site neat and tidy.

REPLACEMENTS: Continue to replace failed, damaged or stolen plants for the extent of the Planting Establishment Period.

MULCHED SURFACES: Maintain the surface in a clean and tidy condition and reinstate the mulch as necessary.

STAKES AND TIES: Adjust or replace as required. Remove those not required at the end of the Planting Establishment Period. Prune trees as directed by the landscape architect.

WATER: The contractor shall be responsible for sourcing, checking availability and if required importing water to maintain the plants during the plant establishment period as required under this specification.

NOTES:

CHECK WITH ENGINEERS DRAWINGS WHEN AVAILABLE TO SEE EXTENT OF EARTHWORK, DRAINAGE, CHANGES IN AND LOCATION OF SERVICES, CO-ORDINATE WORKS AS REQUIRED.

PLANT NUMBERS ON LANDSCAPE PLAN TAKE PRECEDENCE OVER NUMBERS ON PLANT SCHEDULE.

TREES MUST BE CERTIFIED TO AUSTRALIAN STANDARDS AND A WRITTEN INSPECTION REPORT WITH PHOTOGRAPHS OF ROOTS FOR CERTIFICATION FROM THE NURSERY PRIOR TO DELIVERY TO SITE.

NOTIFY SITE SUPERINTENDENT WHEN TREES ARE AVAILABLE ON SITE FOR INSPECTION TO ENSURE AUSTRALIAN STANDARD COMPLIANCE PRIOR TO PLANTING.

TREES THAT DO NOT COMPLY SHALL BE REJECTED AND THE CONTRACTOR REQUESTED TO SUPPLY COMPLYING PLANTS.

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C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%
REV	DATE	COMMENTS

PROJECT:
**newcastle high school
landscape specifications 03**

SITE:
**160 / 200 parkway avenue,
hamilton south**

CLIENT:
school infrastructure nsw

DRAWN: GF DATE: 27.6.23 SCALE: NTS

JOB NUMBER: 13331.5 T PHASE: L403 DWG No: I REV:

SCHEDULES - GENERAL

CULTIVATION SCHEDULE		
LOCATION	DEPTH (MM)	NOTES
Subgrade	100	

DEFECTS SCHEDULE		
TYPE	PERIOD	NOTES
Plant Establishment Period (Softworks). All new plantings & turf areas	52 Weeks	From date of written acceptance of Practical Completion for landscape works.
Defects Period (Hardworks).	52 Weeks	From date of written acceptance of Practical Completion for landscape works.

EXCAVATION SCHEDULE		
LOCATION	DEPTH (MM)	NOTES
Mass Planting	400	To allow for 300mm topsoil, 75mm mulch + 25mm setdown from edge.Cultivate base and sides, fall base to drainage.
Turf	200	Ensure no ponding.
Trees	Refer detail	Refer detail.

FERTILISER / ADDITIVES SCHEDULE		
LOCATION	TYPE	N:P:K RATIO
Mass Planting	An ongoing fertiliser regime as per soil test results.	
Mass Planting (Pre-Planting)	A mix of water crystals, wetting agent, inert carrier and fertilisers.	Equal to Terracottem or Terraform.
Mass Planting (Post-Planting)	Seaweed based soil conditioner with plant growth regulators.	Seasol
Mass Planting (Maintenance Period)	6 month slow release	19 : 0.3 : 9
Turf (At Laying)	Turf Starter	20:12:4
Turf (Maintenance Period)	Organic lawn fertiliser	10:4:5
Trees	A mix of water crystals, wetting agent, inert carrier and fertilisers.	Equal to Terracottem or Terraform.

HOLD POINTS / WITNESS POINTS - CHECKS REQUIRED	
Landscape contractor shall provide the Superintendent notification of checks on progress of the works required and obtain approval to proceed following checking of hold points / witness points below.	
REQUIRED WORK TO BE COMPLETED	NOTICE
Extent, excavation and setout of proposed works (HP).	2 Days.
Clarification on site of set-out points for any trenching or utility realignment (HP).	2 Days.
Form work and reinforcing (where applicable) (HP).	2 Days.
Pre-pour inspections for pavement and pathways (where applicable) (HP).	2 Days.
Set out and inspection of permeable pavement (where applicable) (HP).	2 Days.
Plants available on site or local nursery prior to planting.	2 Days.
Subgrades cultivated and / or prepared prior to placing topsoil.	2 Days.
Plant material set out prior to planting.	2 Days.
Completion of works as approved within the public footpath (WP).	2 Days.
Review of works as executed prior to completion report sign off (HP).	2 Days.
Completion of plant establishment work.	2 Days.

MAINTENANCE CHECKLIST - WEEKLY	
TICK	ACTION
	Check turf and garden areas for vehicular damage. If required, lift turf and backfill with topsoil to form an even grade and reinstate turf. Replaced displaced soil in gardens and re-mulch as required.
	Mow and edge turf to 50mm mow height. Turf must not exceed 80mm height at any time. Remove visible lawn clippings and debris from turf.
	Prune back any groundcovers / shrubs overhanging kerbs, footpaths or other planting.
	Remove any broken or fallen branches from trees or access ways.
	Underprune trees as they mature to ensure the lower branches do not provide obstruction. Do not prune in excess of 1:3 canopy trunk ratio. Remove sucker growth from trees.
	Remove any weeds larger than 50mm high or wide from garden beds. Weeds 50mm and larger must be removed, not poisoned. There shall be no greater than 5% weed coverage in garden beds.
	Check plants for signs of stress or disease. Replace any plants that meet conditions for replacement at the contractor's expense. Request authorisation to replace other dead or missing plants. Note: Contractor must request authorisation to make replacements within one week of the damage becomming evident.
	Treat all plants, trees and turf for signs of disease or pest infestation. Turf shall be maintained in a healthy, vigorous condition, free from weeds, diseases and pests.
	Ensure that all plants and turf areas receive adequate water to sustain healthy growth.
	Inspect all hose tap connections and repair to maintain functionality.
	Sweep or blow clean all walkways, kerbs and gutters with scope of works.
	Remove pruning debris, mowing waste and rubbish off site on day or works being undertaken.
	Complete any items required on the Monthly Checklist.
	Add other items not included above if required.

MAINTENANCE CHECKLIST - MONTHLY	
The following activities to be undertaken in conjunction with the Weekly Maintenance Activities.	
MONTH	ACTION
JANUARY	No additional items.
FEBRUARY	Inspect tree guards for damage and repair as required.
MARCH	Apply fertiliser to all massed planted areas and street trees. Submit receipts to Principal's authorised representative as proof of fertiliser purchase.
APRIL	No additional items.
MAY	Remove accumulated soil and / or mulch from timber edging and locally regrade to match existing turf and garden bed levels. Inspect street tree guards and repair as required. Repair any hard landscaping such as timber edging etc.
JUNE	Apply new mulch to mass planting as required to maintain 75mm depth. Additional mulch not required where shrubs or groundcovers completely conceal the soil surface from view.
JULY	Prune any tree branches that interfere with public safety.
AUGUST	Apply fertiliser to all street trees, mass planting and turf areas and thoroughly water in. Submit receipts to the Principal's authorised representative as proof of fertiliser purchases.
SEPTEMBER	Apply new mulch to mass planting as required to maintain 75mm depth. Additional mulch not required where shrubs or groundcovers completely conceal the soil surface from view.
OCTOBER	No additional items.
NOVEMBER	No additional items.
DECEMBER	Apply fertiliser to all street trees, mass planting and turf areas and thoroughly water in. Submit receipts to the Principal's authorised representative as proof of fertiliser purchases. Apply new mulch to mass planting as required to maintain 75mm depth. Additional mulch not required where shrubs or groundcovers completely conceal the soil surface from view.

H	26.06.23	TENDER
G	14.04.23	TENDER
F	04.04.23	95%
E	28.02.23	95%
D	23.02.23	95%
C	10.02.23	75%
B	17.01.22	50%
A	12.12.22	25%
REV	DATE	COMMENTS

PROJECT:
**newcastle high school
landscape schedules 01**

SITE:
**160 / 200 parkway avenue,
hamilton south**

CLIENT:
school infrastructure nsw

DRAWN: GF DATE: 26.6.23 SCALE: NTS

JOB NUMBER: 13331.5 T PHASE: L501 DWG No: H REV:

SAMPLING SCHEDULE		
ITEM	MIN. SIZE / QTY	MIN. TIME PRIOR TO USE
Topsoil	2kg	In a sealed and labelled bag at least 5 working days before proposed use. Label to include name of supplier and contact details.
Mulch	1kg	In a sealed and labelled bag at least 5 working days before proposed use. Label to include name of supplier and contact details.
Fertiliser	2kg	In a sealed and labelled bag at least 5 working days before proposed use. Label to include name of supplier and contact details.
Plant Materials	1/50 of each species or part thereof	At least two weeks prior to the proposed delivery date, in the condition in which it is proposed to supply that plant to the site. Plants to be made available at a site/nursery in the local area for inspection.
Turf	1 roll	At least 5 working days before proposed use. Label to include name of supplier and contact details.

TREES - REQUIRED CRITERIA					
CONTAINER VOLUME (L)	MIN. ROOTBALL DIAMETER	HEIGHT ABOVE CONTAINER (M)		CALIPER (MM)	
		THICK STEMMED SPECIES	THIN STEMMED SPECIES	THICK STEMMED SPECIES	THIN STEMMED SPECIES
20	300		1.5	-	20
35	350	1.5	2	30	25
50	450		2.5	-	30
60	450		-	40	-
100	500	2.5	3	50	40
150	650		3.5	60	50
200	700	3.5	4	70	60
300	800		4.5	85	70
450	1000	4.5	5	105	90

TREE WATERING REQUIREMENTS
Create Watering Rings/Water-in. Where trees are to be watered manually, create a watering ring for each tree, using site soil, that is approximately 100 mm – 120 mm high for trees up to 200 litre and 130 mm – 150 mm high for trees supplied that are greater than 200 litres such that:
<ul style="list-style-type: none">the inside diameter of the watering ring is less than the diameter of the root-ball this is to ensure that all water applied goes to the root-ball and not the site soils;
<ul style="list-style-type: none">the watering ring is wide enough and sufficiently robust to be durable;
<ul style="list-style-type: none">the watering ring is big enough so that water can be applied at a rate of 20% of root-ball volume in a single application;
<ul style="list-style-type: none">water trees in by applying water, through the watering ring, at a rate of approximately 40% of root-ball volume (2 applications of 20% of root-ball volume);Roots of the newly planted tree are in the rootball. Water applied must be directed to the rootball and watering the surrounding site soils can be, at best wasteful and at worst, damaging.
<ul style="list-style-type: none">Continue to water trees as per instructions below:

TREE WATERING REQUIREMENTS FOR NEW PLANTINGS					
CONTAINER SIZE [litres]	APPLICATION RATES		WATERING DURATION		
	FREE DRAINING SOILS	HEAVY/CLAY SOILS	PERIOD 1: MINIMUM	PERIOD 2: PREFERRED	
45	10 litres	7 litres	0-6 months	7-12 months	
75	10 litres	7 litres	0-6 months	7-12 months	
100	20 litres	15 litres	0-6 months	7-12 months	
150	30 litres	20 litres	0-6 months	7-12 months	
200	40 litres	30 litres	0-6 months	7-12 months	
250	50 litres	35 litres	0-6 months	7-12 months	
300	60 litres	45 litres	0-6 months	7-12 months	
400	80 litres	60 litres	0-12 months	13-24 months	
500	100 litres	75 litres	0-12 months	13-24 months	
600	120 litres	90 litres	0-12 months	13-24 months	
700	140 litres	105 litres	0-12 months	13-24 months	
800	160 litres	120 litres	0-12 months	13-24 months	
1000	200 litres	150 litres	0-12 months	13-24 months	
1200	240 litres	180 litres	0-12 months	13-24 months	
1500	300 litres	225 litres	0-12 months	13-24 months	

TIME OF YEAR	WATER FREQUENCY		BALANCE:
	1ST MONTH	2ND & 3RD MONTHS	PERIODS 1 OR 2
SEP - FEB	4 x PER WEEK (e.g. Mon/Wed/Fri/Sat)	3 x PER WEEK (e.g. Mon/Wed/Fri)	2 x PER WEEK (e.g. Mon/Thurs)
MAR - MAY	3 x PER WEEK (e.g. Mon/Wed/Fri)	2 x PER WEEK (e.g. Mon/Thurs)	1 x PER WEEK
JUNE - AUG	2 x PER WEEK (e.g. Mon/Thurs)	1 x PER WEEK	1 x PER FORTNIGHT
* DELETE A WATERING IF RAINFALL OCCURS 48 HOURS PRIOR TO A SCHEDULED WATERING & EXCEEDS 50mm.			

WEED CONTROL SCHEDULE	
WEED TYPE	CONTROL METHODS
Stripped Soil Stockpile	Glyphosate two weeks prior to stripping.
Mass Planting Areas	Hand weeding.
	Selective herbicide approved for nominated species.

PLANT SCHEDULE

All trees supplied are to comply with NATSPEC's "Specifying Trees a guide to assessment of tree quality"

	BOTANICAL NAME	COMMON NAME	HEIGHT	POT SIZE	SPACING	QTY.
	TREES					
Lc	<i>Lophostemon confertus</i>	Brush Box	15m	75L	as shown	29
Mg	<i>Magnolia Grandiflora</i> 'Little Gem'	Little Gem Southern Magnolia	6m	75L	as shown	13
Ls	<i>Liquidamber styraciflua</i>	Sweet gum	15m	75L	as shown	01
Bi	<i>Banksia Integrifolia</i>	Banksia	8m	75L	as shown	05
Ac	<i>Angophora costata</i>	Smooth-barked apple	12m	75L	as shown	6
MI	<i>Melaleuca Linariifolia</i>	Snow in summer	8m	75L	as shown	15
Da	<i>Davidsonia pruriens</i>	Davidson's plum	8m	75L	as shown	01
Bc	<i>Backhousia Citriodora</i>	Lemon Myrtle	5m	75L	as shown	11
Ee	<i>Elaeocarpus eumundi</i>	Quandong	12m	75L	as shown	13
Sp	<i>Syzygium Paniculatum</i>	Lilly Pilly	5m	75L	as shown	03
TL	<i>Tristaniopsis laurina</i>	Water Gum	12m	75L	as shown	05
Xc	<i>Xanthostemon chrysanthus</i>	Golden Penda	10m	75L	as shown	04
Tc	<i>Terminalia catappa</i>					
	SHRUBS / GRASSES					
Bb	<i>Banksia</i> "BIRTHDAY CANDLES"	Birthday candles	0.5m	5L	4/m2	733
Bv	<i>Baeckea virgata</i>	Heath Myrtle	1.5m	5L	as shown	90
De	<i>Doryanthes Excelsa</i>	Gynea Lilly	1.5m	25L	as shown	132
Dc	<i>Dianella Caerulea</i>	Little Jess	0.6m	2.5L	6/m2	293
Di	<i>Diets Iridoides</i>	White Iris	1m	2.5L	4/m2	291
Aa	<i>Acmena 'alyn Magic'</i>	Dwarf Lilly pilly	1m	5L	as shown	84
Al	<i>Alpinia caerulea</i> 'Red Back'	Native Ginger	1.5m	5L	as shown	78
Cv	<i>Callistemon viminalis</i> 'Red Alert'	Red Alert	2m	25L	as shown	40
Px	<i>Philodendron Xanadu</i>	Xanadu	1m	5L	4/m2	724
Sr	<i>Syzygium Resilience</i>	Resilience	3m	25L	as shown	113
Ci	<i>Casuarina</i> 'Cousin It'	Cousin It	0.1m	2.5L	3/m2	172
Lt	<i>Lomandra</i> 'Tanika'	Basket Grass	0.8m	2.5L	6/m2	1315
Pa	<i>Pennisetum Alopecuroides</i>	Swamp foxtail grass	0.6m	2.5L	4/m2	320
Go	<i>Goodenia ovata Prostrate</i>	Ivy Goodenia	0.2m	5L	3/m2	126
Lk	<i>Lomandra</i> 'Katie Belles'	Mat rush	1.5m	2.5L	4/m2	543
Gt	<i>Gazania Tomentosa</i>	Silver Gazania	0.3m	2.5L	4/m2	201
Mp	<i>Myoporum parvifolium</i>	Creeping Boobialla	0.1m	2.5L	3/m2	138
Wm	<i>Westringia</i> 'Mundi'	Coastal Rosemary	0.3m	2.5L	3/m2	595
Tj	<i>Trachelospermum jasminoides</i>	Star Jasmine	0.3m	2.5L	3/m2	176
Pe	<i>Poa Eskdale</i>	Tussock Grass	0.6m	2.5L	6/m2	302
Cg	<i>Carpobrotus glaucenscens</i>	Pig Face	0.3m	2.5L	3/m2	216

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REV	DATE	COMMENTS

PROJECT:
newcastle high school landscape schedules 02
SITE:
160 / 200 parkway avenue, hamilton south
CLIENT:
school infrastructure nsw

DRAWN: GF	DATE: 26.6.23	SCALE: NTS
JOB NUMBER: 13331.5 T	PHASE: L502	REV: H

SCHEDULES - MATERIALS AND FINISHES

NOTE: use proprietary items as specified below or similar item equal in workmanship, materials and design if approvedby the Superintendent.

STAKES AND TIES SCHEDULE		
CONTAINER SIZE	INSTALLED HEIGHT	TYPE
< 45 Litre	Minimum 1200mm AGL installed.	2 x 35mm hardwood stakes. Loose hessian ties.
45 - 200 Litre	Minimum 1500mm AGL installed.	3 x 50mm hardwood stakes. Loose hessian ties.

TURF SCHEDULE		
CODE	FORMAT	TYPE
T1	Rolls	Kikuyu
T2	Synthetic Turf	Synthetic Turf Supplier: Australian Synthetic lawns Type: "NoMo Cool 40mm" Description: 40mm pile synthetic turf, 4 tone mono filament. Non carcinogenic. Lead and heavy metal free. Colour fastness: min ref standard 8 blue scales 'Topdressing' infill: 15 - 20mm depth, fine washed kiln dried and graded silica sand, application rate as per manufacturer's recommendations. Refer detail for bedding sand and subgrade treatment Affix to sub base as recommended by manufacturer. Provide sufficient fixings so as not to create trip hazards. Glue fix turf pile to adjacent vertical surfaces, as detailed. Manufacturer's warranty: provide min 7 year warranty on UV resistance. Available from: Grassman Grass Manufacturers, Botany NSW. P 02 9316 7244. www.grassman.com.au Submit sample for approval prior to installation.

SOIL SCHEDULE	
LOCATION	DEPTH (MM)
Mass Planting	400
Turf	200
Trees	Top 300mm
Trees	Below 300mm

MULCH SCHEDULE			
CODE	LOCATION	DEPTH (MM) / EXTENTS	TYPE
	Mass Planting & Street Trees.	75	100% recycled grade A green waste. Woodchip. No fines. Equal to ANL Forest Blend ®
SS	Drainage swale	100	Rumbled sandstone spallings 20mm - 200mm Lay into slight depression to ensure rocks cover visible base

PAVEMENT SCHEDULE	
CODE	TYPE
P1	Coloured concrete to engineers details. Colour: CCS "Rhino" 3% in grey cement Finish: Broom Finish
P2	Coloured concrete to engineers details. Colour: CCS "Rhino" 3% in grey cement Finish: Abrasive blast
P3	Plain concrete to engineers details. Finish: Broom finish
P4	Cobblestone
P5	Street Print - Spray on coloured concrete
Ensure all pavement meets Australian Standards for slip resistance and provide copies of test results.	

DRAINAGE SCHEDULE		
CODE	LOCATION	TYPE
SSD	Mass Planting & Street Trees	Perforated plastic pipe: To AS 2439.1. Diameter: 90mm. Junctions: Use purpose made fittings. Filter Fabric: Use polymeric fabric formed from a plastic yarn containing stabilizers or inhibitors to make the filaments resistant to deterioration due to UV light. Backfill: Use 20mm nominal size washed screenings. Connect to stormwater system.

EDGE SCHEDULE		
CODE	LOCATION	TYPE
TE	At interface of turf and mass planting, as shown on the Landscape Plans.	Edging: 100 x 45mm H4 treated pine. Joiner: 75 x 15 x 450mm long H4 treated pine. Stakes: 50 x 50 x 450mm long hardwood stakes @ max.1200mm centres.

SANDSTONE LOG SCHEDULE	
CODE	TYPE
SL	Size: 2000 x 500 x 500mm sandstone block. Supplier: Gosford Quarries, First Grade quality, with sawn face to top as sitting surface. Colour: Mount White brown sandstone. Contact: sales@gosfordquarries.com.au Ph: 4340 3000 Note: Ensure blocks sit firmly on compacted sub-base without rocking
SL 2	Size: 1000 x 500 x 500mm sandstone block. Installed upright to allow lockable irrigation controller to be mounted on face Supplier: Gosford Quarries, First Grade quality, with sawn face to top as sitting surface. Colour: Mount White brown sandstone. Contact: sales@gosfordquarries.com.au Ph: 4340 3000 Note: Ensure blocks sit firmly on compacted sub-base without rocking

ROOT CONTROL BARRIER SCHEDULE	
CODE	TYPE
RCB	Equal to Arborgreen Landscape Products "Re Root 600". Or as per detail.

FURNITURE SCHEDULE	
CODE	TYPE
S1	Draffin Street Furniture - Wandin Table Setting Table Code: DRAFFIN 89045 Wandin table Size: 2104mm x 820mm x 750mm high Battens: Timber-look Aluminium- Alpine Ash Frame: Black Powdercoated Fixing: Bolt down Bench: Wandin bench. 2 per table Code: 89047 Size: 1720mm x 405mm x 430mm high Battens: Timber-look Aluminium- Alpine Ash Frame: Black Powdercoated Fixing: Bolt down
S2	Draffin Street Furniture - Wandin Table Setting Table Code: DRAFFIN 89045 Wandin table Size: 2104mm x 820mm x 750mm high Battens: Timber-look Aluminium- Alpine Ash Frame: Black Powdercoated Fixing: Bolt down Bench: Wandin bench. 1 per table Code: 89047 Size: 1720mm x 405mm x 430mm high Battens: Timber-look Aluminium- Alpine Ash Frame: Black Powdercoated Fixing: Bolt down
S3	Mos Urban Furniture - Strut Cafe Table - Square style Code: STCAFTAB-10-90 Size: 750mm x 750mm x 730mm high Slats: Australian hardwood Frame: Powdercoated steel Trim: Powdercoated steel Fixing: Bolt down Stool: Sturt stool. 4 per table - Square style Code: STSTL-10-90 Size: 375mm x 375mm x 420mm high Slats: Australian hardwood Frame: Powdercoated steel. Trim: Powdercoated steel Fixing: Bolt down
S4	Draffin Street Furniture - Wandin Semi Circular Bench. 2 each setting Code: 89042 Size: 1455mm(inner dimension), 2265mm (outer dimension) x 405mm x 430mm high Battens: Timber-look Aluminium- Alpine Ash Frame: Black Powdercoated Fixing: Flat Bar Legs
S5	Draffin Street Furniture - Wandin Straight Timber Bench Code: 89047 Size: 1720mm x 405mm x 430mm high Battens: Timber-look Aluminium- Alpine Ash Frame: Black Powdercoated Fixing: In ground

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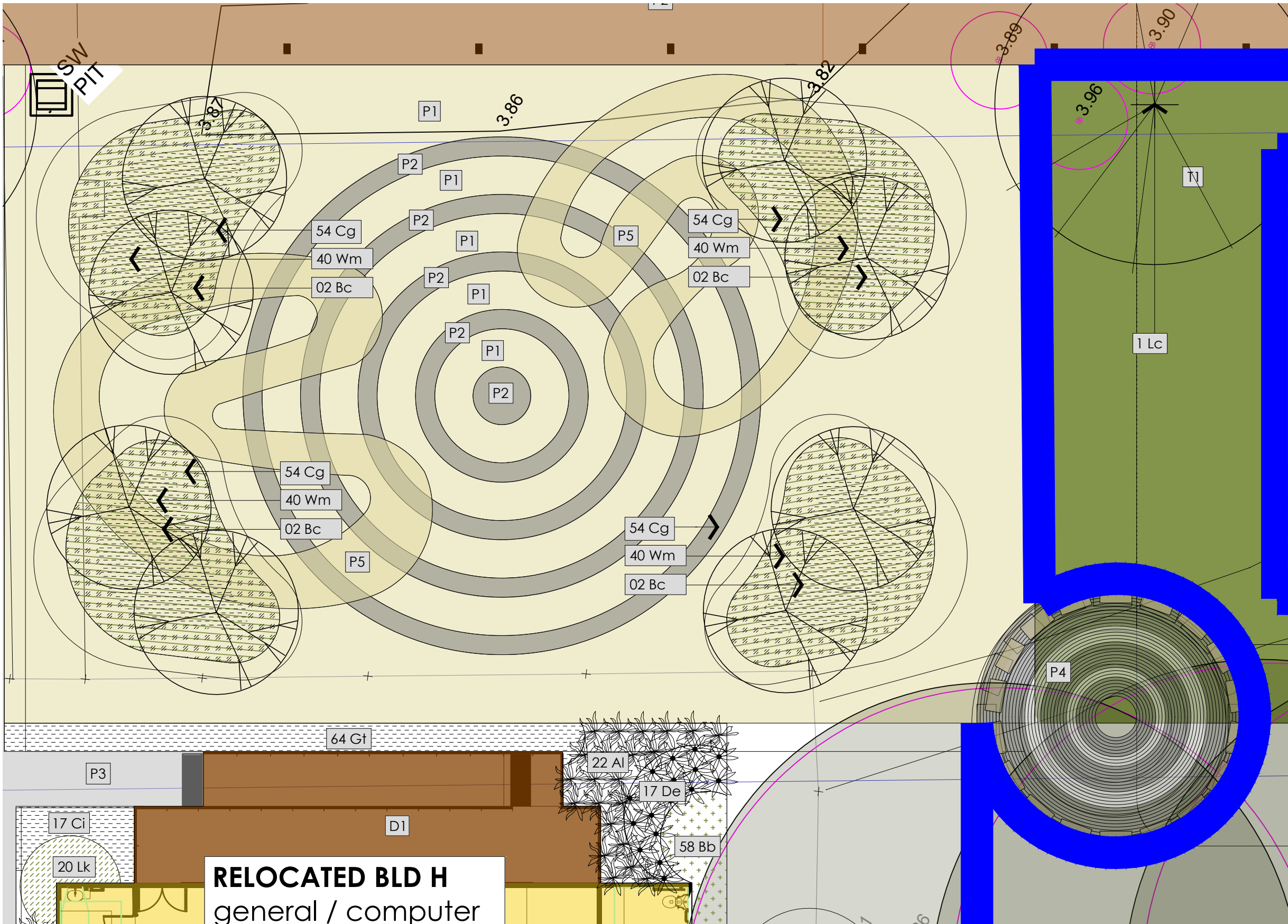
PROJECT:
**newcastle high school
landscape schedules 03**

SITE:
**160 / 200 parkway avenue,
hamilton south**

CLIENT:
school infrastructure nsw

DRAWN: GF DATE: 26.6.23 SCALE: NTS

JOB NUMBER: 13331.5 T PHASE: T DWG No: L503 REV: H



LEGEND

- P1 PAVEMENT TYPE 1
COLORED CONCRETE
- P4 ARKKIA CUBE COBBLES
100mm x 100mm x 50mm thick

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JOB NUMBER: 13331.5 T PHASE: L504 H REV: H